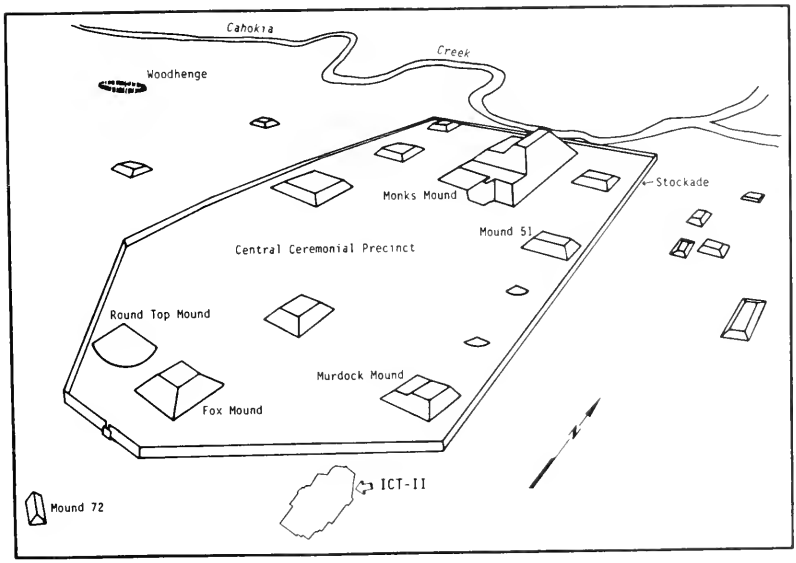
The Archaeology of the Cahokia Mounds ICT–II: Site Structure

James M. Collins



Illinois Cultural Resources Study No. 10
Illinois Historic Preservation Agency

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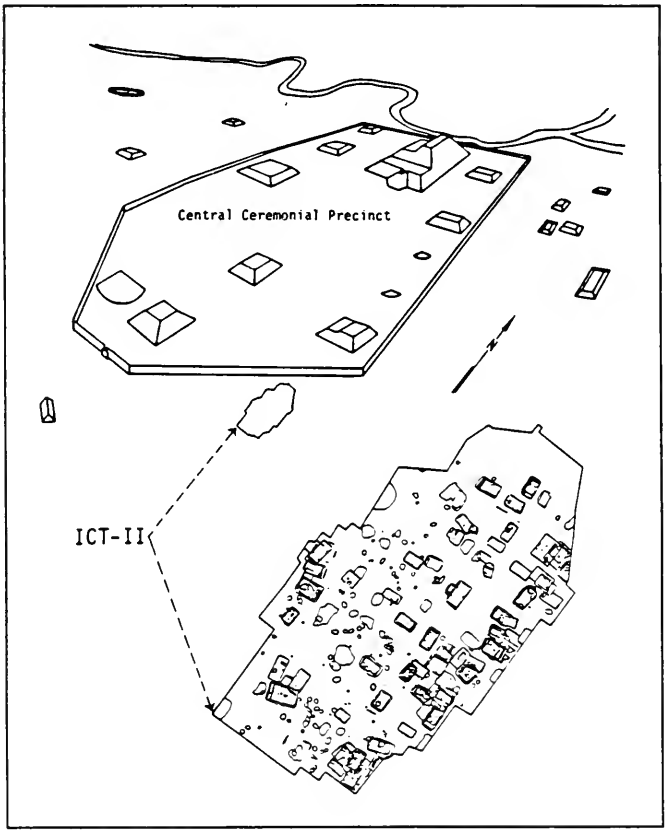

1990

Illinois Cultural Resources Study No. 10
Illinois Historic Preservation Agency
Springfield

THE CULTURAL RESOURCES STUDY SERIES

The Cultural Resources Study Series was designed by the Illinois State Historic Preservation Office and Illinois Historic Preservation Agency to provide for the rapid dissemination of information to the professional community on archaeological investigations and resource management. To facilitate this process the studies are reproduced as received.

Cultural Resources Study No. 10 reports on the features and structural remains excavated at the Cahokia Mounds Interpretive Center Tract–II. The author provides detailed descriptions and interpretations of household and community patterns and their relationship to the evolution of Cahokia's political organization. This report is a revised version of a draft previously submitted to the Illinois Historic Preservation Agency. The project was funded by the Illinois Department of Conservation and, subsequently, by the Illinois Historic Preservation Agency. William I. Woods served as Principal Investigator.

The work reported here was financed in part with federal funds provided by the U.S. Department of the Interior and administered by the Illinois Historic Preservation Agency. However, the contents and opinions do not necessarily reflect the views or policies of the U.S. Department of the Interior or the Illinois Historic Preservation Agency. Funds for preparation of this report were provided by a grant from The University of Iowa, Office of the Vice President for Research.

Thomas E. Emerson, Chief Archaeologist of the Illinois Historic Preservation Agency serves as general editor for the Cultural Resources Study Series.

International Standard Book Number 0–942579–10–0.

This work is dedicated to Susan and Kathleen

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PREFACE

This volume is one of a series summarizing investigations begun in 1984 by the Contract Archaeology Program, Southern Illinois University at Edwardsville in association with the development of a new Interpretative Center at the Cahokia Mounds State Historic Site, St. Clair County, Illinois. This work was funded by the State of Illinois and administered by the Illinois Historic Preservation Agency. The support and cooperation of Director Michael Devine, Robert Coomer, Ed Keating, Bill Farrar, Ted Hild, and Site Supervisor Margaret Brown and her staff are gratefully acknowledged. A special thanks is extended to Chief Archaeologist Thomas Emerson for his efforts throughout the course of the investigation.

William I. Woods
Principal Investigator
and
Program Coordinator

ACKNOWLEDGMENTS

I take this opportunity to express my appreciation to those who helped me during the preparation of this book and during the course of the ICT–II project. Bill Woods plucked me from obscurity and deposited me on one of the great sites of the world with the words "sink or swim." I will always appreciate the strong support and guidance Bill provided to keep me afloat. I was fortunate that Tom Emerson was available for counsel because he understood the complexity of the excavation and its inherent methodological problems. His advice was always welcome and perfectly on point.

Tim Pauketat was a great help in acclimating me to the Cahokia site and I was lucky that he was part of the project. I wish to sincerely thank the field crew for their effort, especially those who were with me through the rain and floods of spring, the heat and hard ground of summer, and the snow and cold of winter. To those who know the therapeutic power of Doc's greasy hamburgers and a shot of Jameson's on a rain-drenched 33 degree December day—I salute you again.

Michael Chalfant, Rodney DeMott, David Kluth, Christy Wells, and Charlie Witty are thanked for their effort in analyzing the mapped feature complexes and skillfully determining the superposition sequence and association of many features. Charlie Witty is especially thanked for his efforts in compiling and checking, and checking, and checking again, the numerous tables found in this volume.

I thank Neal Lopinot and George Holley for providing a challenging and intellectually stimulating atmosphere in which to write this volume. Neal's and Christy Wells' editorial comments on an earlier draft are thankfully acknowledged. Mike Skele is thanked for providing his surveying and mapping skills throughout the project, and keeping us on the Cahokia Grid. Mike also provided the maps and figures found in this volume. Lucy Hansen created the cover art. The contribution of Cricket Kelly in the preparation of the original manuscript is appreciated.

I wish to thank The University of Iowa Graduate College for providing funding for prepublication editing of the manuscript. Bill Green pointed me in the direction of funding. I owe Steve Lensink special thanks for his recommendation to the Graduate College on my behalf. I'm sure his influence was instrumental in obtaining the grant.

Last, thanks go to Linda Forman (Scribal Tradition, Iowa City) for trimming the fat from a somewhat unwieldy original manuscript. Linda's editorial skill is evident throughout this volume and she was a pleasure to work with.

James M. Collins
Iowa City 1990

I. PROJECT HISTORY, DESIGN, AND METHODS

INTRODUCTION

Plans for the construction of a new Interpretive Center at the Cahokia Mounds Historic Site have been on-again and off-again for over a decade. While enthusiasm for such a facility has always been high, the priority assigned the project by the various branches of state government has waxed and waned due primarily to monetary exigencies. This situation has resulted in a number of archaeological investigations conducted concomitant with several abortive museum plans. A short history of these investigations may be useful as a record.

The first museum-related archaeological investigations were a site feasibility study conducted in the summer of 1976 by a University of Wisconsin–Milwaukee (UWM) crew under the direction of project Principal Investigator Elizabeth Benchley, and a concurrent geomorphic, magnetic, and archaeological investigation conducted by University of Illinois–Chicago Circle (UICC) personnel under the overall direction of Principal Investigator Robert L. Hall. These investigations were carried out in the area of the Cahokia site known as the Dunham Tract, located approximately 700 to 900 m west and 300 to 800 m south of Monks Mound (Figure 1.1). The 1976 UWM project entailed a program of aerial photograph interpretation and soil phosphate testing funded by the Illinois Department of Conservation (IDOC). A preliminary feasibility report, which included several recommendations for further work (Benchley 1977), and a report detailing the results of the soil testing (Woods 1977) were completed before support for the project waned. Reports of the UICC project were completed later (Nashhold 1977; Gladfelter et al. 1979). However, plans for an Interpretive Center to be located in the Dunham Tract area were not seriously broached again.

The next museum-related archaeological investigation was conducted in the summer of 1979. At that time, the IDOC funded a UWM project, directed by Principal Investigator Melvin L. Fowler, to determine the potential construction impacts in the area of another proposed Interpretive Center Tract. The new tract was encompassed by CMG (Cahokia Master Grid) coordinates S600–800 and E270–500 and was located directly west of the Tippett's (née Listerman) Mound Complex (Figure 1.1). The project was "designed primarily to investigate surface evidences of prehistoric utilization of the tract" (Fowler and Benchley 1980:1). A research strategy that included aerial photography, controlled surface collection, topographic mapping, and soil coring was developed. The project resulted in a series of recommendations for "preserving areas which [were] relatively undisturbed or which have great archaeological value. . .[and for] additional archaeological investigations to determine the nature of sub-plowzone archaeological remains" (Fowler and Benchley 1980:65). Examination of air photos suggested the possible presence of Mississippian ridged agricultural fields in the tract.

Fowler and Benchley's (1980) recommendations were implemented in a follow-up IDOC-funded testing project conducted by UWM in the summer of 1980. Fowler again served as Principal Investigator, and Benchley directed the project. The investigation was encompassed by CMG coordinates S600–800 and E360–450 (Figure 1.1). The project objective "was to determine if any subsurface archaeological remains [would] be impacted by the construction of the new interpretive center facility" (Benchley and DePuydt 1982:1). A multi-stage sampling design, including topographic mapping, hand-excavated test units, and limited machine excavation, was applied. The sampling design was geared to obtaining an unbiased determination of the tract's subsurface cultural remains, as well as toward investigating areas of possible important cultural remains identified by the 1979 project. These investigations confirmed the presence of Mississippian features in portions of the tract, but were inconclusive as to the definition of the possible Mississippian ridged fields. Testing also identified undisturbed culture-bearing strata over sandy point bar deposits associated with the Spring Lake meander series. In addition to a burned area, and materials situated immediately on top of the basal sand, two buried A horizons with cultural features and materials were defined. Diagnostic materials recovered from these buried surfaces suggested an affiliation with the Late Archaic Prairie Lake phase. Recommendations pertinent to both the museum location and archaeological mitigation of construction impacts were proposed (Benchley and DePuydt 1982).

Benchley and DePuydt's (1982) recommendations were incorporated into the planning of an Interpretive Center building, which was to be constructed in a series of modules. A 20 by 20 m block was chosen for the placement of the first portion of the building. The block was situated slightly north of center

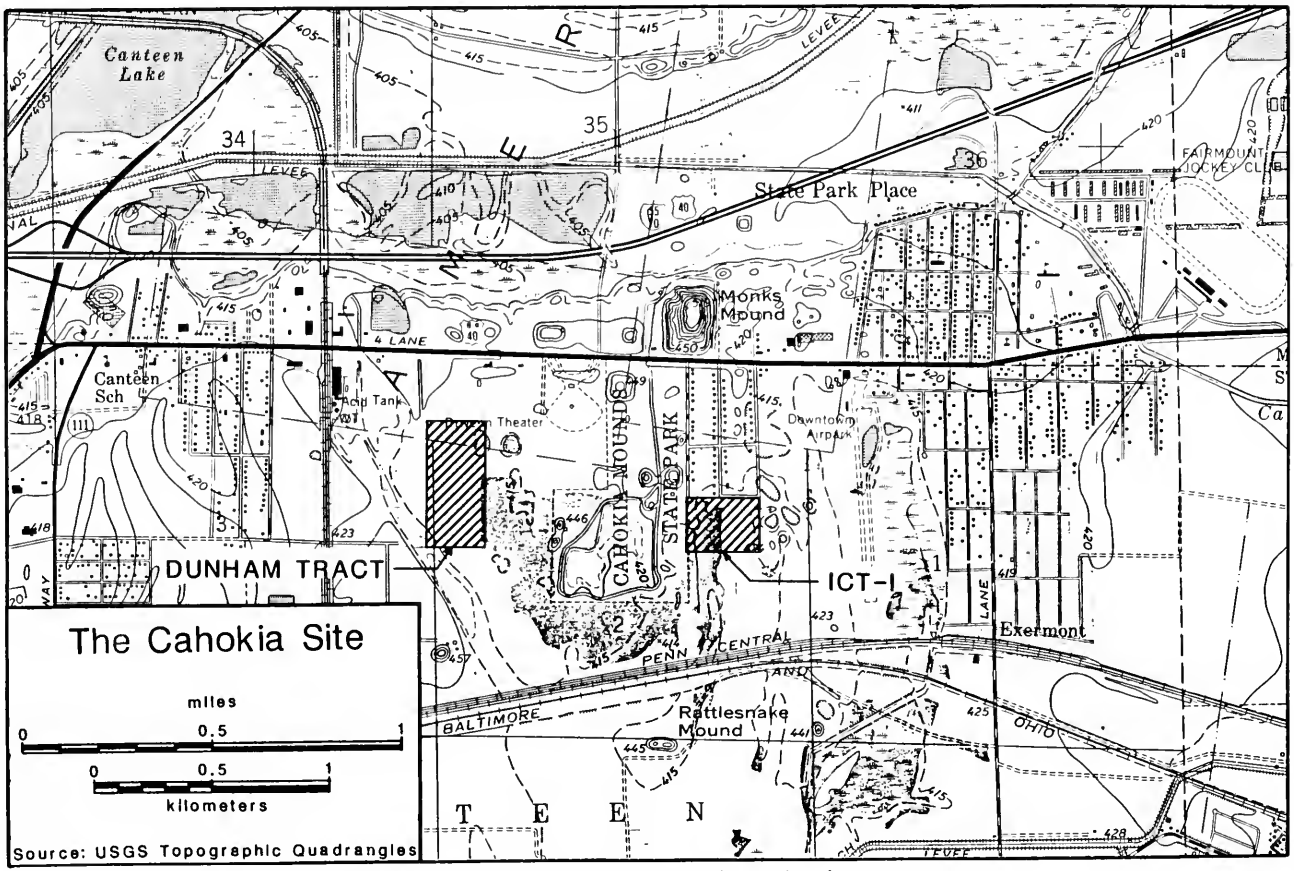


Figure 1.1. Location of museum related investigations conducted prior to 1984.

in the Interpretive Center Tract and was encompassed by CMG coordinates S653–673 and E395–415 (Figure 1.1). Archaeological mitigation in this area was conducted in 1982 by personnel from the Center for Archaeological Investigations at Southern Illinois University at Carbondale. Brian M. Butler and Richard W. Jefferies served as Co-Principal Investigators for the project, which Michael S. Nassaney directed and IDOC funded. The research goals of the 1982 project centered on the identification of the possible ridged field system and the examination of the buried Late Archaic horizons (Nassaney et al. 1983). Fieldwork was accomplished through a combination of backhoe and hand excavation. As was the case during testing, no features were encountered that clearly related to the linear markings observed on the aerial photographs. Consequently, questions concerning the existence of the possible Mississippian ridged field system remain unresolved. Two buried A horizons were located during excavation. A total of 80 features, including 39 pits, were identified in the deeper of the two. Radiocarbon assays of charcoal recovered from these features cluster around 1200 B.C. These dates, together with recovered diagnostic lithic artifacts, firmly place the Late Archaic habitation of the tract in the early portion of the Prairie Lake phase (Nassaney et al. 1983:109). A diversity of multi-season subsistence and maintenance activities was identified for this occupation. However, the duration and density of any single occupation could not be determined due to the small sample size of the excavated area. Based on the 1982 work, Nassaney et al. (1983:118) recommended additional archaeological work be conducted in the areas of the remaining three building modules. Specifically, it was suggested that further attempts be made to identify any ridged field features and that excavation be conducted to investigate the buried Archaic manifestations in the areas of the other building modules.

Nassaney et al. (1983) were the first to use the abbreviation "ICT" for the Interpretive Center Tract. Later events necessitated that the suffix "–I" be added to the abbreviation, to designate Interpretive Center Tract–Location I. Due to a number of factors, and despite a formidable amount of archaeological work invested, plans for the construction of the Interpretive Center at the ICT–I location were ultimately abandoned. Nature played a prominent role in this, the last of the abortive museum plans. For substantial periods of 1983 and 1984, the ICT–I was inundated by floodwaters. Legitimate questions regarding the suitability of the ICT–I as a building location were raised. Alternative designs, including the possibility of filling the area and situating the museum building atop an elevated earthen platform, were contemplated, but later rejected for a variety of practical and aesthetic reasons.

THE INTERPRETIVE CENTER TRACT–LOCATION II

There was general disappointment at the fate of the ICT–I, but enthusiasm for a new Interpretive facility remained high. Among those close to the situation, there was an air of urgency to keep the Cahokia museum project a priority while funding was available. An area comprising higher ground, located immediately to the north of the ICT–I, was selected in 1984 as Interpretive Center Tract–Location II (ICT–II). Between late 1984 and 1987, the ICT–II (Figure 1.2) was the subject of a series of integrated archaeological testing and mitigation projects conducted by the Southern Illinois University at Edwardsville (SIUE), Contract Archaeology Program under the overall guidance of Principal Investigator William I. Woods.

Recommendations Based on 1984 Testing

Based on the 1984 testing, Woods (1985a) presented a series of recommendations pertinent to the building location and archaeological mitigation of construction impacts. These recommendations, however, were made in the absence of data relating to the actual configuration or dimensions of the Interpretive Center and its associated outbuildings, roadways, parking lots, and utility lines. Rather, consideration was given exclusively to the area, volume, complexity, and significance of the prehistoric features which would potentially be impacted by emplacement of the Interpretive Center itself.

Within the tract as a whole it was possible to delimit a contiguous area within which archaeological materials were relatively dense and which, therefore, was accorded the highest priority for continued testing. This high priority area generally spanned the center of the tract from east to west edges. Within *that* area, based on the criteria outlined above, two locales were ultimately identified as less likely than others to sustain major archaeological damage from construction. One of these areas (designated RA-1), is defined by CMG coordinates S425–490, E324–464. A relatively low area topographically, RA-1 extended

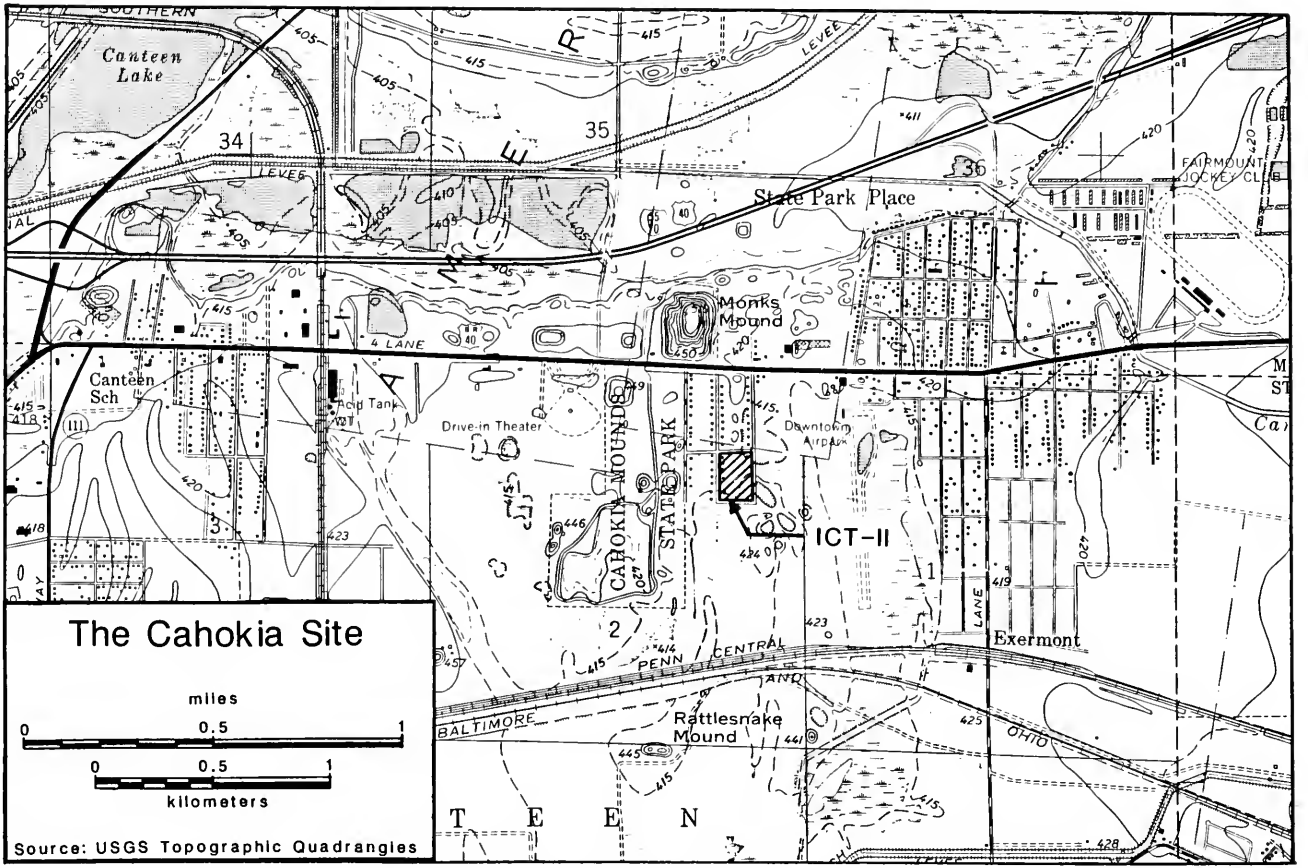


Figure 1.2. Cahokia site showing location of Interpretive Center Tract – Location II.

up the mid-slope of the rise along the eastern margin of the tract. The second area (designated RA-2) was situated on the upper slopes and crest of the eastern rise above the 126.7 m elevation mark, and was defined by CMG coordinates S425–465, E464–495. It was noted that access to the proposed building could be gained from the north and east along existing Ramey Street right-of-way and that existing roadways and utility lines possibly could be used or upgraded. It was suggested that the combined RA-1/RA-2 area would be utilized most effectively by a northeast–southwest building orientation. It was further recommended, if additional acreage were required, that attendant facilities be placed to the north, outside the area of highest priority for testing, where a similar level of impact would be expected. Finally, it was suggested that construction disturbances be confined to areas below the elevation of 126.75 m. This was the elevation above which there appeared to be a dramatic break in feature density.

Woods (1985a) believed the greatest advantage of siting the building within RA-1 and RA-2 to be that two other locales could then be completely avoided by construction. These locales, designated RA-3 and RA-4, were located respectively in the western and southern portions of the high priority area. Both contained significant archaeological deposits and features, including mounds, extensive borrows, and possibly, palisade lines.

Based on the assumption that the above recommendations would be followed, a mitigation plan was developed. Specific recommendations concerning research goals, methodology, scheduling, and personnel were included. A general goal proposed for the mitigation project was to achieve a "diachronic view of Mississippian residential patterns outside the central Cahokia precinct" (Woods 1985a:29). A brief history of the ICT–II mitigation project is presented below.

ICT–II Mitigation—1985

Early in 1985, IDOC issued a Request for Proposals (RFP) which outlined the Scope of Services for the archaeological mitigation of construction impacts within the ICT–II. Because no specific plans or designs for the Interpretive Center existed at that time, the Scope of Services was necessarily written to be flexible enough to accommodate inevitable changes. The RFP required proposals to include: 1) a research design stating the major research questions to be investigated, the theoretical framework the analysis would employ, and any essential assumptions to be utilized or tested; 2) the methodology to be employed in all phases of the project; 3) a detailed project schedule; 4) the identification of key project personnel meeting minimum formal qualifications as stated in the RFP; 5) evidence of institutional or corporate qualifications to provide adequate field and laboratory equipment and facilities to fulfill the contract; 6) a plan for the ultimate disposition of all data generated by the project; 7) an agreement concerning the rights of the contracting agency to ownership and control of the data generated by the project; 8) an understanding of the responsibilities of the Contractor regarding materials and data prior to their delivery to the contracting agency; and 9) a budget providing estimates of the amounts of time and money to be allocated to the various research tasks proposed and a justification of the proposed expenditures.

In response to the RFP, SIUE submitted a proposal to perform the archaeological work (Woods 1985b). Subsequently, in April, 1985, SIUE was awarded the mitigation contract. SIUE's project research design was deliberately broad-based so that a variety of research questions could be developed and pursued as the data might warrant. The research topics enumerated in the original project description were expected merely to form the basis for a more comprehensive research program, which could be modified and developed throughout the course of the project.

Research Topics

The general goal of the investigation was to achieve a diachronic view of residential patterns outside the central Cahokia precinct during the period A.D. 950–1150. Therefore, such socio-economic topics as community and household organization, social stratification, subsistence activities, occupational specialization, and external trade were to be addressed. Specific field and laboratory methods were geared toward acquiring, describing, and interpreting data relevant to those subjects.

A formal and functional analysis of feature types and distributions through time was proposed. Given the location and boundaries of the research area, entire community plans for any period of site occupancy were not expected. However, it was anticipated that a variety of data on the minimal unit of

settlement, the household, would be generated. Feature patterns, superpositioning, and associations were expected to aid in the chronological ordering of recovered materials.

The ceramic analysis had a number of stated goals. The basic goal was to provide a relative chronology for the occupations of the tract. The identification of technological and stylistic variations was expected to provide data on the homogeneity or heterogeneity of the ceramic assemblage during any given period and through time. Such analysis was also expected to provide a measure of site, local, and regional cultural integration. It was hoped that the ceramic analysis would help identify feature function and define activity areas.

The major objectives of the lithic analysis were the determination of raw material types and their source areas, the identification of formal and informal tools, and the correlation of lithics with other excavated data and materials to demonstrate any chronological variations in lithic procurement, production, and utilization. The lithic analysis was expected to provide evidence for non-local trade networks, faunal and floral resource procurement and processing, and food production.

For a site of Cahokia's magnitude, there have been few analyses of botanical materials recovered through flotation. Therefore, paleoethnobotanical analysis was considered significant within the scope of the overall project. The wide range of cultural deposits represented in the area to be impacted was considered to have the temporal depth necessary for a thorough investigation of changing lifeways, especially subsistence-related aspects. In addition to identifying floral materials and resource zones exploited by the tract's inhabitants, the ethnobotanical analysis was expected to aid in the reconstruction of the contemporary environments of the settlements themselves.

The faunal analysis was expected to provide a measure of the importance and diversity of meat in the diet, the types of habitats exploited and the seasonality of exploitation, and changes in faunal procurement and utilization through time. It was expected that comparison of such data with data from other areas of the site and other sites within the American Bottom would help in determining differential patterns of Mississippian faunal procurement and utilization through space, over time, and within different levels of settlement hierarchy.

In early 1985, the extent of any buried Archaic deposits in the ICT–II was unknown. The terminal Archaic horizons documented in the ICT–I dated to ca. 1200 B.C. (Nassaney et al. 1983). Elsewhere in the American Bottom, dates from Late Archaic sites fall somewhat later (McElrath et al. 1984). Woods (1985b) expected any Archaic deposits located in the ICT–II to be older than those of the ICT–I due to their position in a more interior portion of the Spring Lake point bar complex. Should Late Archaic components be located within the ICT–II, it was anticipated that analysis of recovered artifacts, excavated features, and feature contents in relation to their stratigraphic position and horizontal distribution would provide another opportunity to view undisturbed open-air Archaic deposits. Potential research questions to be addressed included the seasonality, duration, and intensity of occupation; the nature and degree of specialization or generalization of subsistence practices; changes in subsistence activities through time; sources of lithic procurement and the nature of stone tool production; and the nature and diversity of tool assemblages.

Methods

When fieldwork began in 1985, a definitive building design had not yet been developed. Initial plans called for a building of approximately 6000 m^2, nearly double the estimate upon which testing recommendations had been based. It was agreed that, whatever the final design, the building would be situated predominately within RA-1 and RA-2 and, as Woods recommended, in the area immediately north of RA-1 and RA-2. However, it was clear from the beginning that it would be necessary to include a portion of RA-4 within the construction impact zone. There was agreement among those involved that the sensitive mound and borrow areas within RA-4 be avoided, but that avoidance of topographically high portions of RA-4, expected to contain an exceedingly high density of domestic features, was impossible.

A reliable definition of construction limits was not made available until early July, 1985. In the interim, fieldwork was confined to areas of known impact within RA-1, RA-2, and the area north of those locales.

Archaeological mitigation was conducted at the ICT–II by SIUE personnel between 15 April and 19 December 1985. James M. Collins served as Project and Site Director under the guidance of Principal Investigator Woods. The original contracting agency, the Illinois Department of Conservation Division of

Lands and Historic Sites, was reorganized in July, 1985. Subsequent to the reorganization, the ICT–II project was administered by the newly formed Illinois Historic Preservation Agency (IHPA). All project-related work, both before and after the administrative reorganization, was conducted in close coordination with IHPA Chief Archaeologist Thomas E. Emerson. Fieldwork included topographic survey and mapping, establishment of the CMG and elevation data, controlled surface collection, mechanical removal of disturbed plowzone and colluvial deposits, Mississippian feature excavation, mechanical excavation of stratigraphic trenches, mechanical excavation of a deep block to investigate possible buried Late Archaic deposits, and excavation of Late Archaic features.

Initial work was conducted in mid-April and consisted of topographic survey and preparation of a 0.2 m contour interval base map. The base map was coordinated with the CMG and existing cartographic sources. Horizontal and vertical control points established in the field were permanently fixed so that they could be used as datum points throughout the course of the project. A Lietz SDM3E Total Station was used to establish all horizontal and vertical control points, to locate excavation limits, to tie all significant points in to the CMG, and for all topographic surveying. The SDM3E combines a direct-reading five second theodolite with an infrared laser electronic distance measuring device accurate to 0.005 m ± five parts per million, both on the same horizontal axis. An on-board computer calculates the difference between the instrument station and the objective station in three coordinates (Skele n.d.:5).

In late April, the area north of RA-1 and RA-2 and bounded by CMG coordinates S375–430 and E415–485, was plowed and disced in preparation for a controlled surface collection. After sufficient rainfall, the controlled surface collection was conducted in mid-May utilizing 5 x 5 m collection units. Cultural material was recovered from each of the 154 collected units (Figure 1.3).

The original methodological design had called for controlled surface collection of those areas of RA-1 and RA-2 not collected during the 1984 testing. However, in the spring of 1985 that area was too wet to be plowed. For this reason, the contracting agency and the contractor agreed to forego further surface collection in RA-1 and RA-2 and to proceed directly with mechanical plowzone excavation.

Machine-aided removal of disturbed overburden and feature definition began on 21 May. In June, plowzone stripping was confined to a 2,340 m^2 area the contractor had been assured would be impacted. More complete details of the museum design were available in early July and thereafter mechanical plowzone stripping followed the perimeter of the staked construction impact zone (Figure 1.4). After opening the initial 2,000+ m^2 block, mechanical plowzone stripping was scheduled for one or two days a week depending on the progress of feature excavation. This strategy reduced expenditures for plastic tarp and limited weathering and desiccation, which occurred on all newly exposed undisturbed surfaces.

Disturbed overburden removal was accomplished by a backhoe equipped with an extra-wide (5 ft; 1.52 m) bucket and toothless blade. This specially designed equipment provided excellent vertical control and a very clean cut. These characteristics enabled confident feature definition at the basal interface of the plowzone. Darwin series soil (gumbo clay) is notoriously difficult to work (Collins and Griffin 1979; Nassaney et al. 1983). It is doubtful if any mechanical equipment would be more efficient than the backhoe for archaeological use in this area of the Cahokia site. A highlift was used in tandem with the backhoe to remove the excavated soil to an out-of-the-way location. Backhoe equipment and skilled operators were provided by A.C. Construction and Levin Excavating. Highlift work, and considerable logistical advice, were provided by Clyde Sweitzer.

Plowzone removal was completed in October. A total of 5,289 m^2 was stripped of plowzone. This area was contained within CMG coordinates S375–490 and E421–482 (Figure 1.4). Surface elevations within the excavated block ranged from 126.4 to 127.2 m.

Plowzone depth varied considerably within the excavation block. Plowzone depth was as shallow as 0.16 m in areas of higher elevation along the eastern margin of the block and as deep as 0.7 m in certain low areas that had been inflated during the historic period. In some areas, particularly along the western margin of the block, a series of plowzones covered with varying depths of colluvium were evident. A buried plowzone was also evident in the northeast corner of the block where the land had been artificially raised for the location of a mid-twentieth century house. In that area, as much as a meter of overburden was removed before reaching the base of the buried plowzone. The foundation of the modern house and its attendant outbuildings and sewer system had significantly disturbed Mississippian archaeological remains in the northern portion of the tract (Figure 1.5).

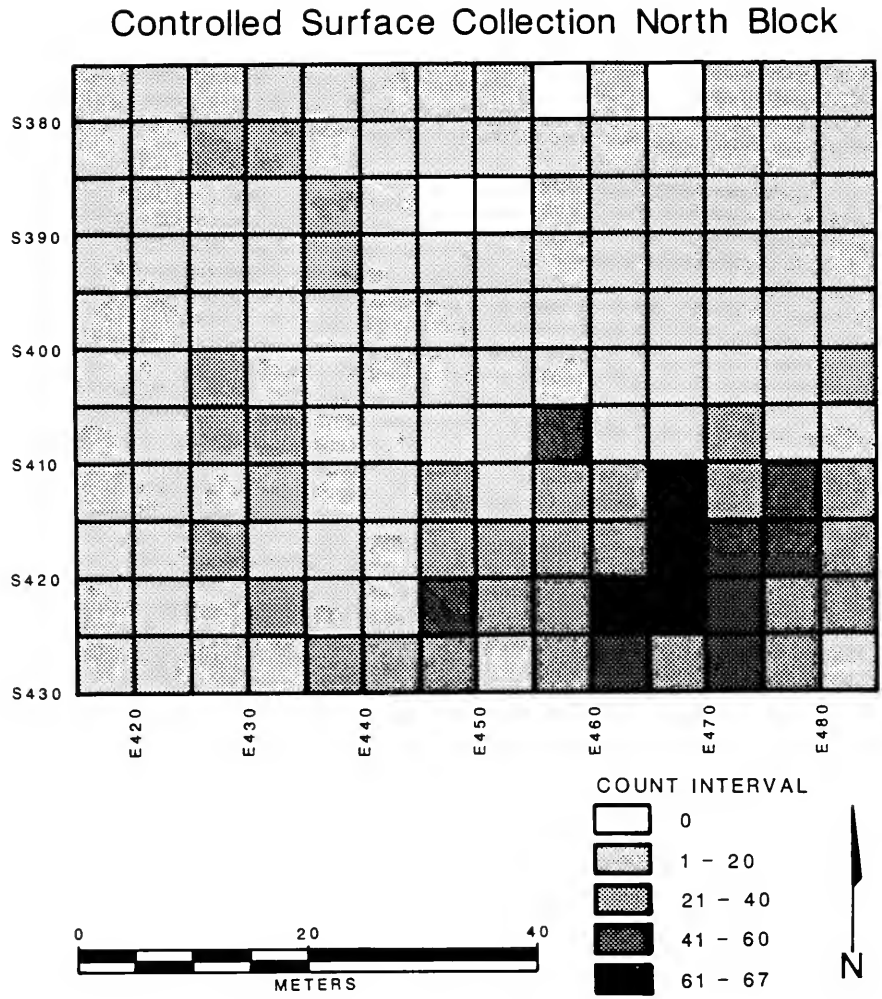


Figure 1.3. Surface density distribution of artifacts recovered during 1985 surface collection.

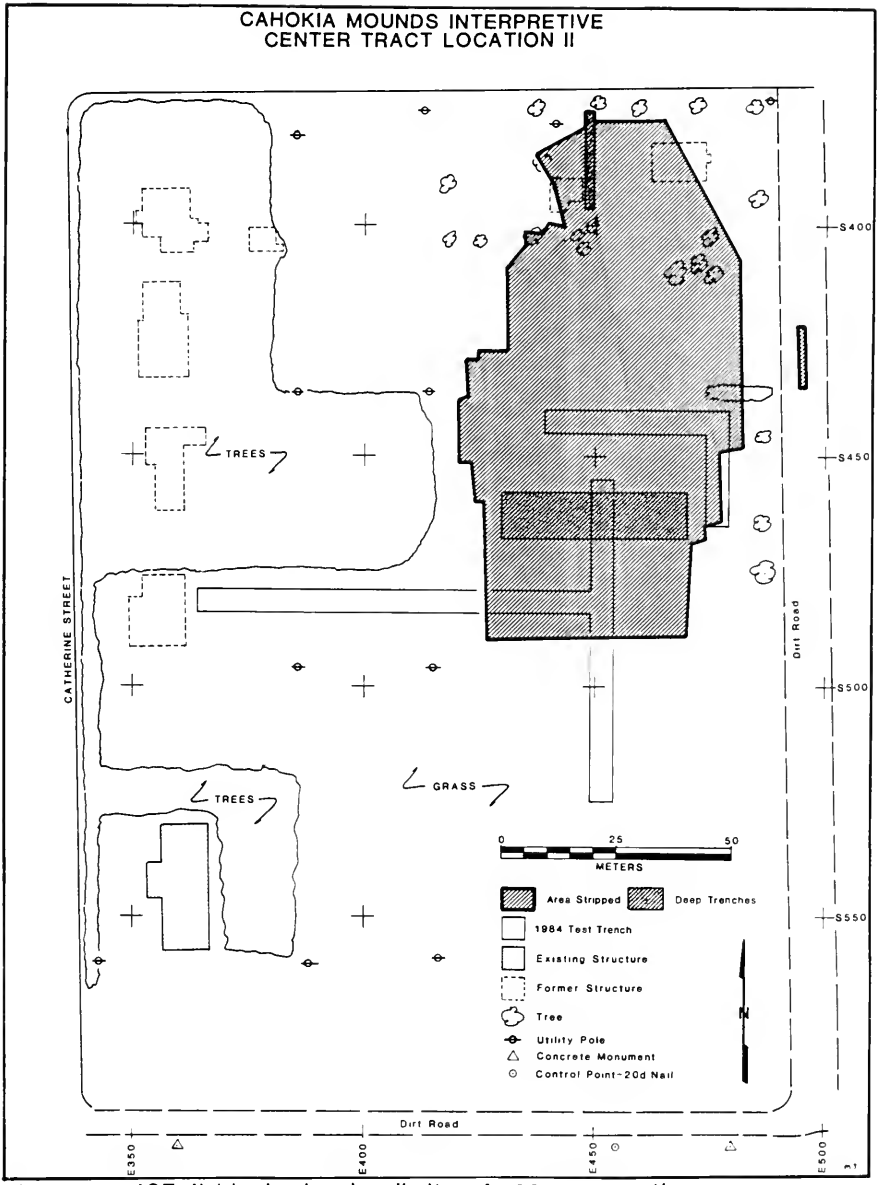


Figure 1.4. ICT-II block showing limits of 1985 excavation.

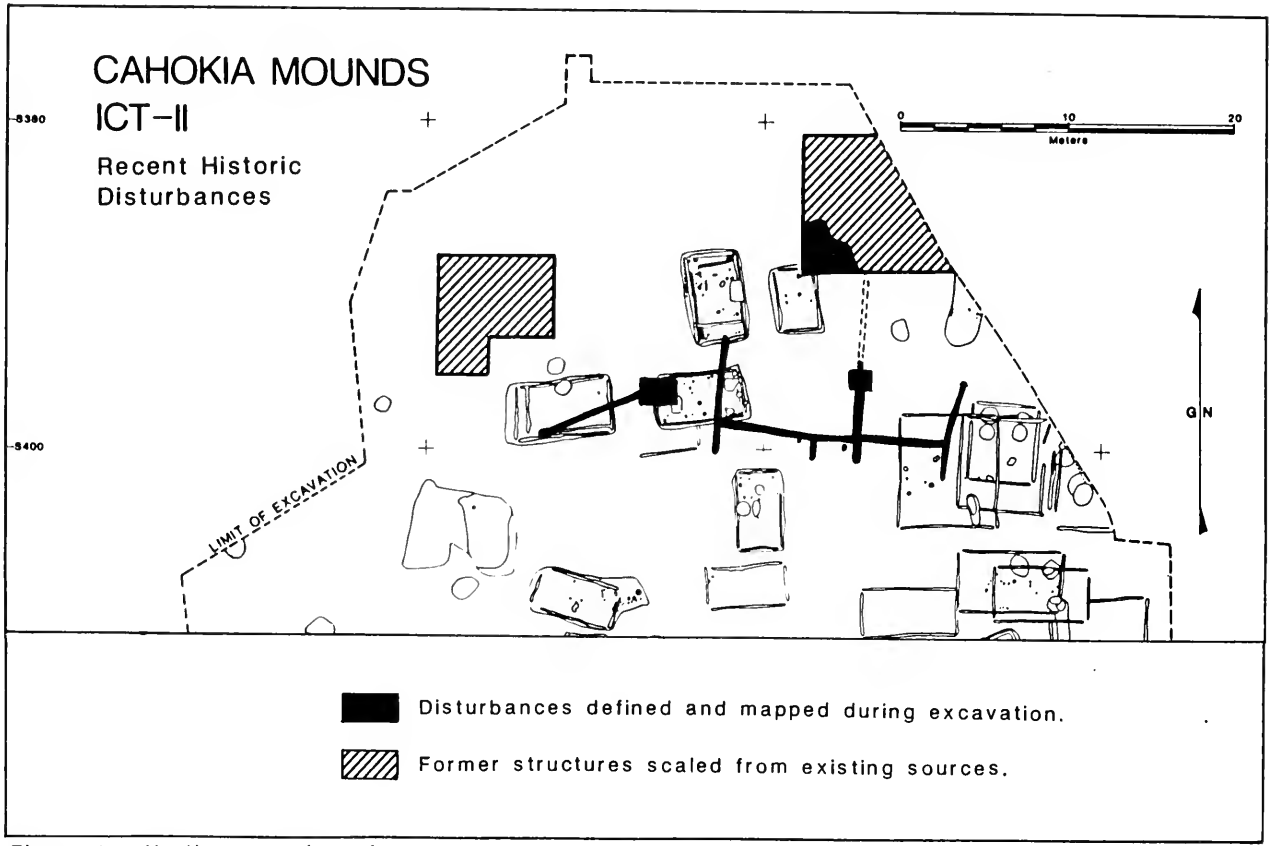


Figure 1.5. Northern portion of ICT-II excavation block showing historic disturbances to Mississippian features.

Immediately following plowzone removal in a given area, a number of control points tied into the CMG were established with the total station instrument. Subsequently, a transit and tape were used to lay out 2 m CMG intervals for feature mapping and excavation controls. Numerous elevation data were placed near features and feature complexes during grid emplacement. These data were placed in convenient locations for use during feature excavation.

Using the established grid, features which had been encountered by plowzone removal were mapped on graph paper at a scale of 1:20. The accuracy of the above-described field methods was considered a minimum requirement for the production of maps. According to American Congress on Surveying and Mapping standards, a map at a scale of 1:500, the smallest scale of the eventual report maps, should have a standard error of no more than 0.125 m (ACSM Committee 1985). The ICT–II maps are very close to this standard.

Hand excavation of cultural features associated with the Mississippian component began in May and continued through 19 December. During that period, fieldwork was sometimes hampered by periods of exceptionally wet weather. June, 1985 was the fourth wettest June ever recorded in the St. Louis area. November, 1985 holds the record as the wettest November ever in St. Louis. Occasionally the wet weather was a blessing, as Darwin soil is much easier to work when wet than when dried out. During December, progress was sometimes slowed by snow. In spite of adverse conditions, crew members continued to work, often in numbing cold, and their effort is gratefully acknowledged.

Binford (1972c:159) asserts that the field archaeologist must be knowledgeable and flexible enough to make decisions as to what data are relevant to a given problem, and that no single set of field techniques can recover all the evidence. Incorporating this view, the ICT–II excavation strategy was not rigid. Feature excavation procedures closely followed those employed by the recent University of Illinois FAI–270 and FAI–255 projects (Finney 1979). Methodology was often necessarily modified in response to complex feature juxtapositioning, logistical prerogatives, and specific field conditions. As with all contract projects, ICT–II field procedures were governed to a degree by the dual constraints of time and money.

Cultural features at the ICT–II fell into one of three broad categories-pit features, structures, and other features. The general excavation procedures applied to each category are outlined below.

Subsequent to plan view mapping at 1:20 scale, pit features were sectioned along their long axes. One half of the feature was then excavated in a single level to at least 5 cm below the base of the pit fill. A detailed map of the vertical cross-section profile was drawn. Any cultural or natural stratigraphy observed in profile was delineated, and a photograph was taken of the cleaned profile. The second half of the feature was then excavated. If stratified fill zones had been apparent in the cross-section profile, the second half was excavated according to the cultural or natural levels observed. If multiple zones were not evident, the second half was excavated in a single cultural level to the base of the pit. During feature excavation, any noteworthy artifacts, material concentrations, or other significant internal anomalies were sketched and discussed in narrative notes. Due to the nature of the Darwin soil, excavated feature fill was not normally screened. In exceptional circumstances, such as dense small bone concentrations, feature fill was occasionally screened through 1/4 or 1/2 inch hardware cloth. More often in such instances, 'special' flotation samples were collected. Standard 5.0 l flotation samples were recovered from every cultural and natural fill zone in the second half of each pit. Radiocarbon and botanical samples were recovered whenever possible and all other debris classes were retained.

In some circumstances, pit features were intrusive upon one another. In such cases, the features were sometimes sectioned along axes other than the long axis if such a procedure would better delineate the sequence of pit superpositioning. Otherwise, excavation procedures were identical to those described above.

Structural features were normally sectioned along their short axes. In most cases, after mapping at 1:20 scale, a 0.4 m wide slit-trench was excavated across the approximate center of the structure. The slit-trench was an effective approach to the excavation of structures because it provided a variety of data upon which further excavation decisions could be based. These data included the depth of fill, location and nature of foundation elements, and the number and nature of fill zones.

For isolated, individual structures, excavation subsequent to the slit-trench was simple and straightforward. The short axis cross-section profile, including the structure basin and wall trenches, was mapped at 1:10 scale. The half of the structure basin opposite the mapped profile was excavated according to the zones apparent in the profile. If multiple fill strata were not apparent in the cross-section profile, the structure basin was excavated in a single cultural level to the base of the floor. Foundation elements (i.e.

trenches, posts) were defined, mapped and marked with flagging tape. The second half of the structure basin was then excavated in the same manner. As was the case with pit feature excavation, any noteworthy artifacts, material concentrations, or other significant internal anomalies were mapped and discussed in narrative notes. Five liter flotation samples were recovered from each stratum in each quadrant of the structure basin. Radiocarbon, botanical, and archaeomagnetic samples and all cultural debris and artifacts were recovered whenever possible. Photographs were taken at pertinent times throughout excavation. Once the basin was excavated, all foundation elements were defined and mapped. Profiles across each trench were obtained. Wall trenches were then cross-sectioned parallel to their long axes and the resulting profiles, including trench limits and any extant postmolds were mapped. Finally, the second half of each wall trench was excavated. In the case of post structures, each postmold was cross-sectioned along an axis perpendicular to the edge of the structure basin or perimeter.

When multiple structural features were superimposed, excavation strategy was correspondingly more complex. It was often the case that five or more structural features would overlay one another in complex patterns of juxtaposition. Excavation strategy in such cases was something akin to pulling a jigsaw puzzle apart piece by piece. When detectable, the latest feature in a given complex would be excavated first, the second latest second, etc., until all the features in the complex were excavated. Many times, the order of superpositioning was not readily apparent. In such cases, a 0.4 m wide slit trench, excavated along a strategic axis across a feature complex, was found to be an efficient logistical tool. The superpositioning of multiple basins and wall trenches was often more apparent in the slit trench profiles than in planview. Excavation would then proceed in whatever manner circumstances dictated.

Structural Feature 178 was excavated differently than other structural features. Feature 178 was a catastrophically burned structure, the only such structure encountered during the investigation. Because Feature 178 was burned, it presented a unique opportunity to recover an in situ behavioral artifact assemblage. The significance of the feature was immediately recognized, and excavation procedures were modified to facilitate comprehensive data recovery. A grid (CMG) of 1 x 1 m units was established over the feature. All charred structural members, artifacts (including 17 vessels), and other materials, such as carbonized seed concentrations, were point provenienced in three dimensions. Five liter flotation samples were recovered from the floor level of each 1 x 1 m unit. Excavation was simplified by the fact that the feature was the last of a series of superimposed structures.

Features other than pits or structures were excavated in a manner as consistent as possible with the procedures outlined above. Hearths, for example, normally exhibited oxidized flat surfaces or shallow oxidized depressions. If the flat-surfaced hearths were oxidized sufficiently to warrant archaeomagnetic sampling, that procedure was implemented. After archaeomagnetic sampling, there was usually very little remaining of the hearth feature, and what was left was simply excavated as a single unit. Hearths exhibiting shallow depressions were normally too cracked for archaeomagnetic sampling; in any case, the bowl shape of these features made such sampling very difficult. Bowl-shaped hearths were normally excavated like ordinary pit features. Other non-pit and non-structure features were excavated in the manner which seemed most appropriate to the situation. In such cases, the Site Director determined the appropriate excavation strategy.

During October, while Mississippian feature excavation continued, work was also geared toward investigation of possible Late Archaic occupations within the tract. Two wide (1.52 m) backhoe trenches were excavated in order to examine the resulting stratigraphic profiles (Figure 1.6).

A north–south oriented trench was excavated near the northern margin of the tract following the CMG E448 baseline from S376–397. Sandy point bar deposits were encountered within 1 m of the surface in this trench and no buried culture-bearing strata were defined. A second purpose for excavating this trench was to locate and map a historically filled prehistoric borrow area, which was purported to have been located in the northern portion of the tract (Woods 1985a). Indications of the borrow area were identified at the extreme north end of the trench (Figure 1.7).

An east–west oriented trench was excavated along the S458 baseline from E431–471. The trench was excavated to a depth of approximately 3 m at its eastern end, penetrating the sandy deposits of the point bar. The surface of the point bar is considered the oldest surface a cultural component could have occupied. As excavation of the trench proceeded west, the depth of the excavation followed the top of the sandy point bar deposit. From east to west, the elevation of the point bar deposit sloped gradually from 125.66 m at E471 to 124.62 m at E431. The north wall of the trench was profiled (Figure 1.8). Two buried A horizons

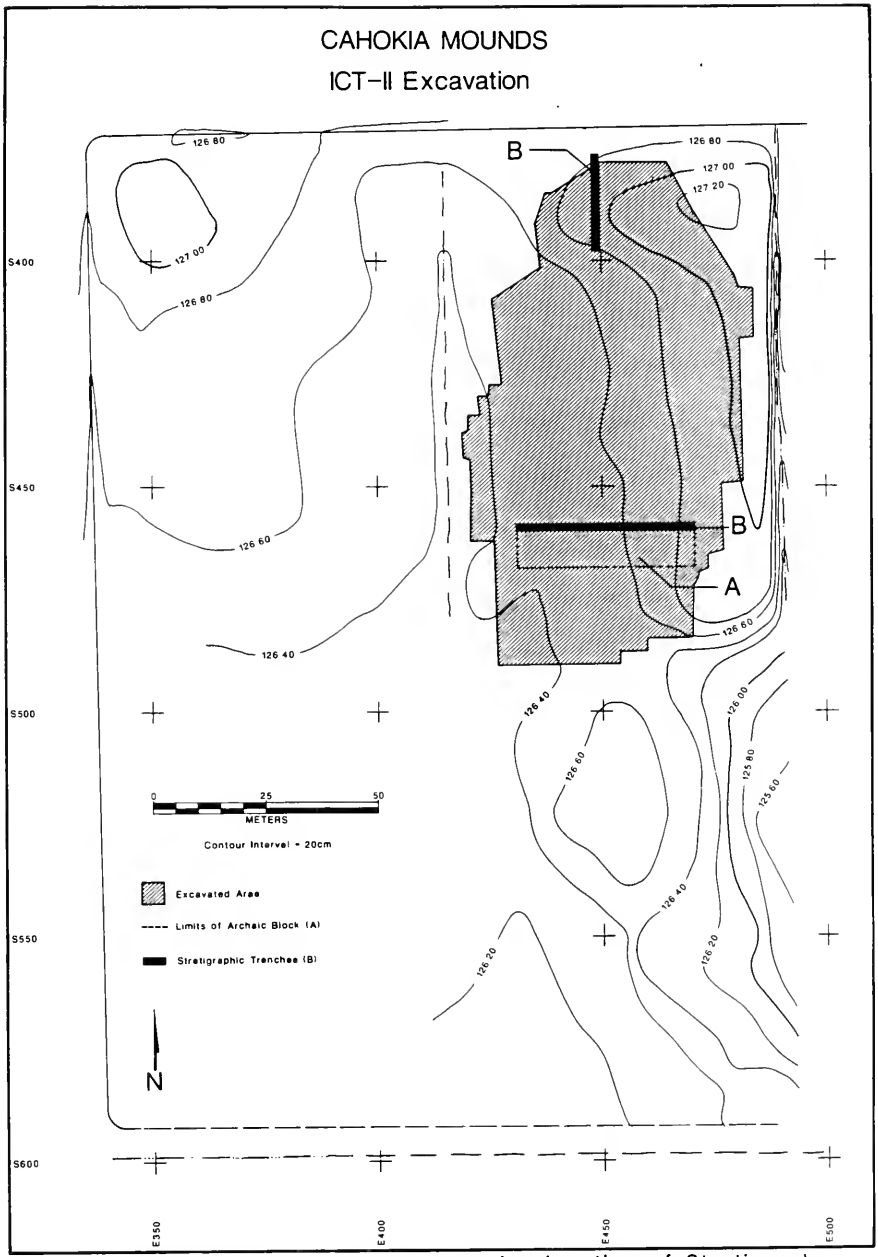


Figure 1.6. ICT-II excavation block showing location of Stratigraphy Trenches and Archaic Block.

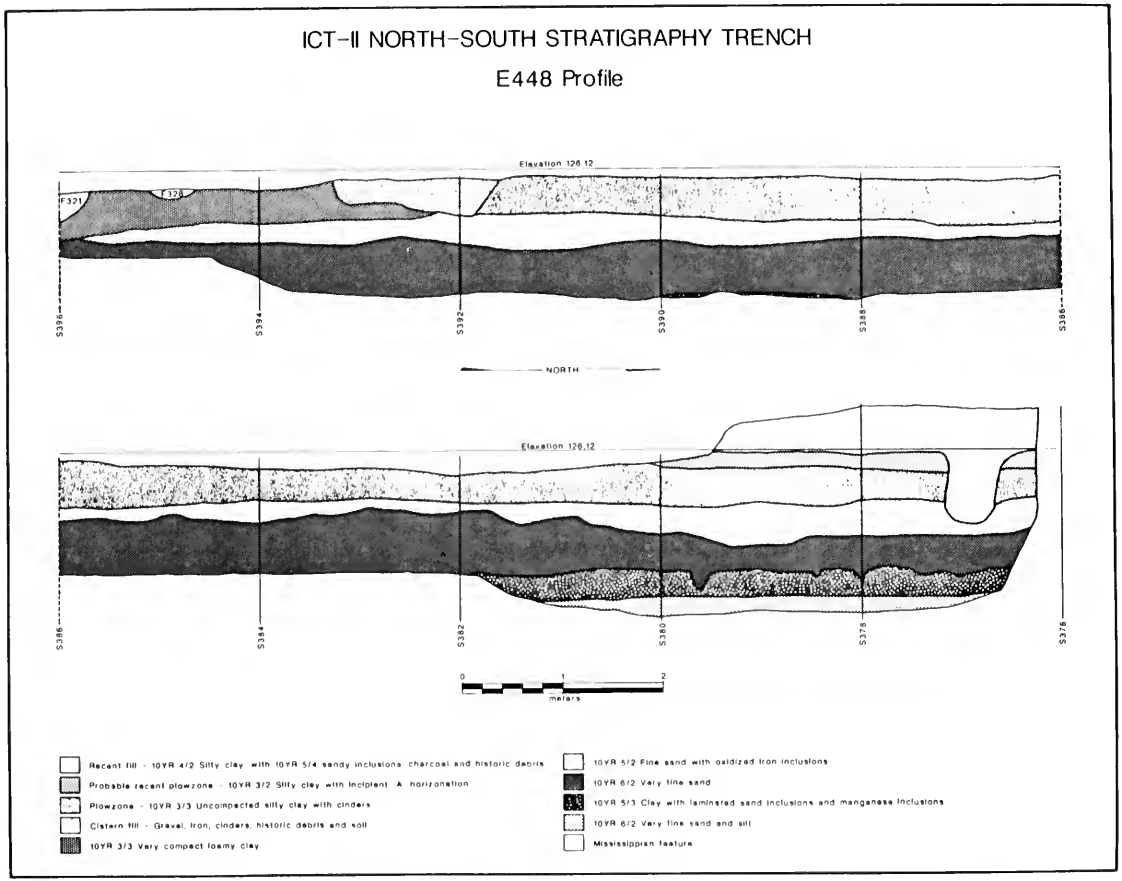


Figure 1.7. Profile of north-south Stratigraphy Trench.

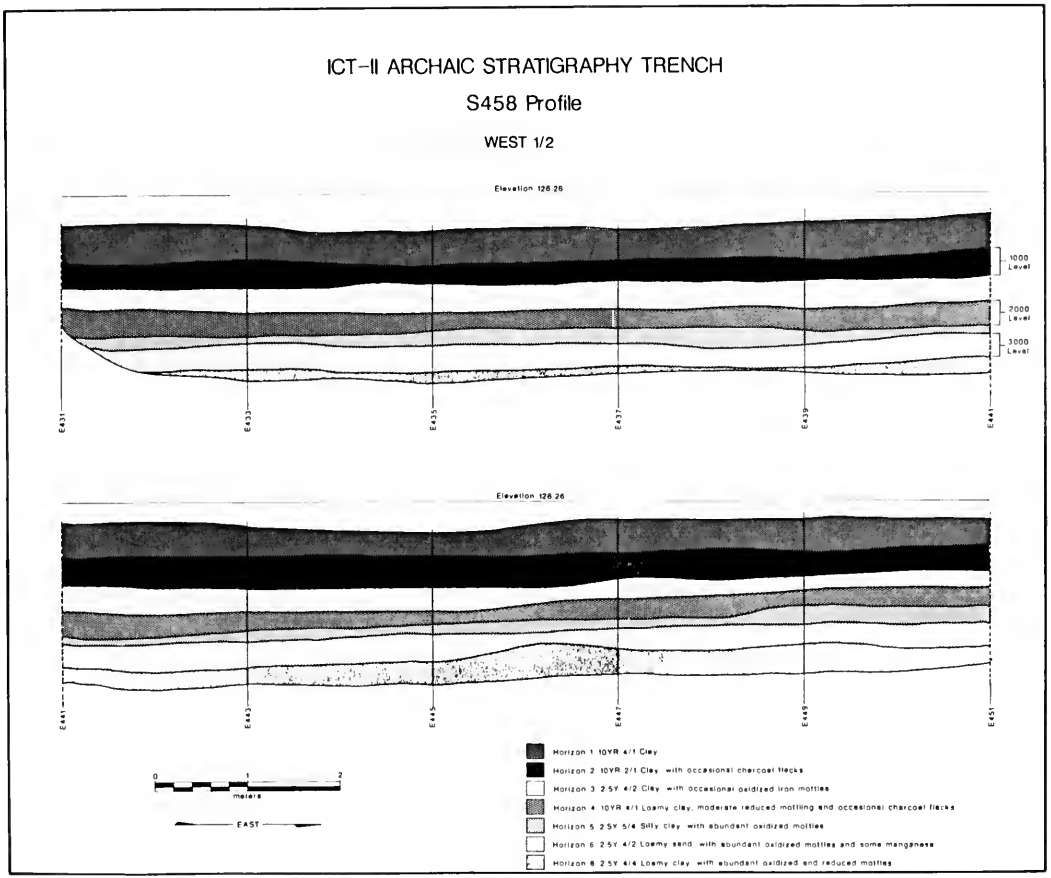


Figure 1.8 Profile of east-west Stratigraphy Trench.

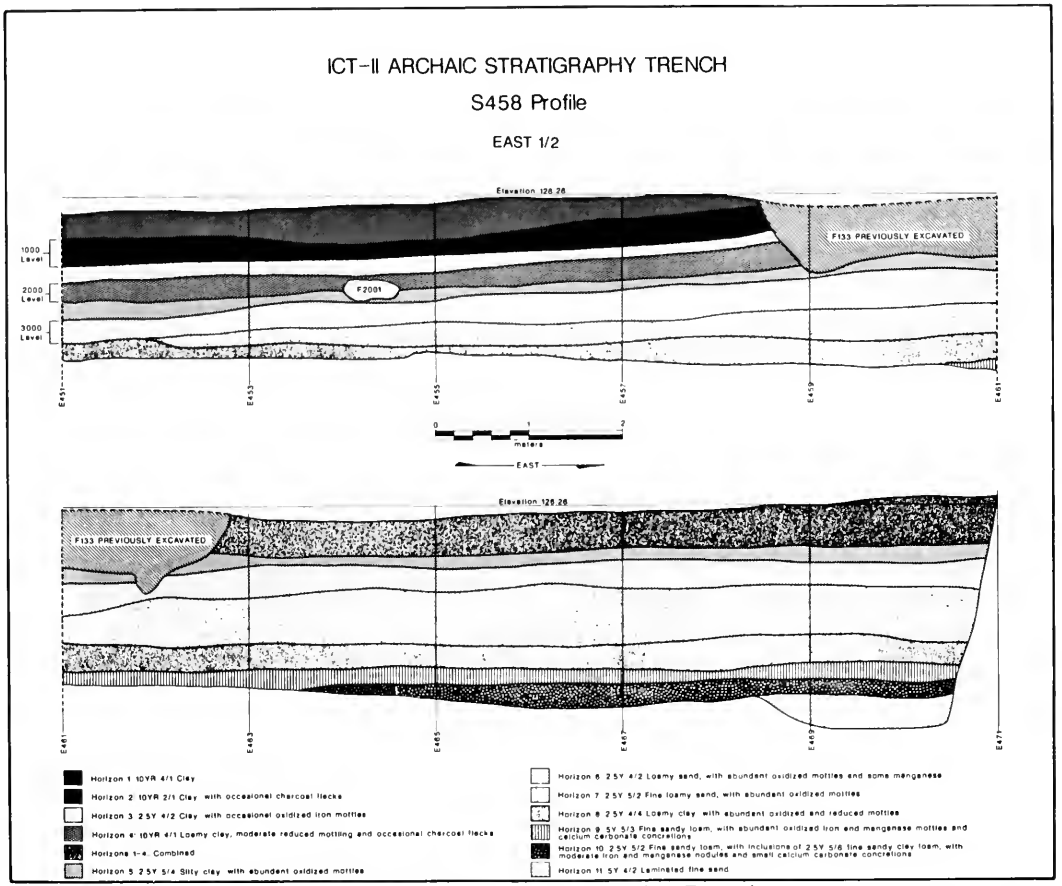


Figure 1.8 continued. Profile of east-west Stratigraphy Trench.

were clearly apparent in the profile above the point bar deposit. Both these discrete strata exhibited generally the same slope as the point bar deposit. The upper of the two buried A horizons was recognized on the profile at S458, E458.40 between elevations 126.14–125.86 m, and extended to the west end of the trench at S458, E431 where the elevation of the stratum was between 125.52–125.22 m. The lower of the two buried A horizons was recognized on the profile at S458, E458.60 between the elevations 125.74–125.46 m. At S458, E431, the lower buried A stratum was situated between 125.04–124.76 m (Figure 1.8). For the purpose of feature number designation, the upper buried A horizon was designated the 1000 level, the lower buried A horizon was designated the 2000 level, and the point bar deposit was designated the 3000 level (see Figure 1.8).

Following trench profile mapping, the east–west oriented trench was expanded, resulting in a 400 m^2 area designated the Archaic Block. The Archaic Block was contained within CMG coordinates S458–468 and E431–471 (Figure 1.6). The Archaic Block provided areal coverage of a 1200 m^2 area of possible Late Archaic occupation (given 400 m^2 x 3 possible culture bearing strata).

Excavation of the Archaic Block involved the use of the wide-bucket backhoe. Each old surface was carefully exposed and examined for evidence of cultural features. When features were encountered, they were immediately excavated using the techniques outlined previously. Once each old surface was exposed and cleared of any cultural features, lower strata were carefully stripped away while project personnel observed the soil for cultural features and artifacts. The surface of the point bar deposit within the Archaic Block was similarly examined.

Only two possible cultural features were encountered in the entire Archaic Block and both were associated with the lower of the two buried A horizons. Located within 20 m of each other, both features (Features 2001 and 2002) consisted of charcoal concentrations (Figure 1.8).

A total of 453 Mississippian features in addition to the two possible Late Archaic features were excavated in 1985. In the course of the 1985 season, 2,787 material bags, 902 flotation samples, 118 radiocarbon samples, and five archaeomagnetic samples were collected. All collected material and samples were returned to the field laboratory daily. From May through December, field laboratory personnel were continually occupied with washing, labeling, and rough sorting the materials, and preparing the various samples for short or long-term curation.

Excavated materials were first sorted into gross classes. Each materials class was then further sorted prior to its disposition with the SIUE staff members or outside specialists responsible for analysis. The specific methods employed by the materials analysts are described elsewhere in this report series.

ICT–II Mitigation and Testing —1986

The SIUE ICT–II investigations were expanded in July, 1986. At that time, Booker and Associates, Inc., the primary engineering contractor to the IHPA for the ICT–II project, issued a sub-contract to SIUE to conduct additional archaeological studies prior to construction. The new contract called for more excavation in the area selected for the Interpretive Center building, and surface collections and test excavations in the areas scheduled for construction of ancillary facilities. Woods and Collins again served as Principal Investigator and Project Director respectively for the 1986 contract.

Building design changes, made in early 1986, necessitated expanding the 1985 excavation block along its western and northeastern margins. Using the same methods employed in the 1985 excavation, the plowzone was removed from an additional 544 m^2 area. Thirteen more Mississippian features were defined in the expanded area of the block and were subsequently excavated. Features and materials were excavated and processed in the same fashion as was the case in 1985. Feature excavation within the ICT–II block was completed in August, 1986.

A contiguous block equal to 5,833 m^2 was excavated and cleared of cultural features during 1985 and 1986. This block was contained within CMG coordinates S375–490 and E418–485. A total of 466 Mississippian features was excavated (Figure 1.9).

According to construction designs, an area south of the ICT–II excavation block was to become the Interpretive Center parking area. Plans called for the parking area to be raised, thereby not directly impacting extant cultural remains; however, the IHPA had two points of concern regarding the parking area. One concern had to do with a large, low profile mound, first recognized during the 1984 ICT–II testing. After consultation with M. L. Fowler, this mound was designated Mound 107 following the sequential

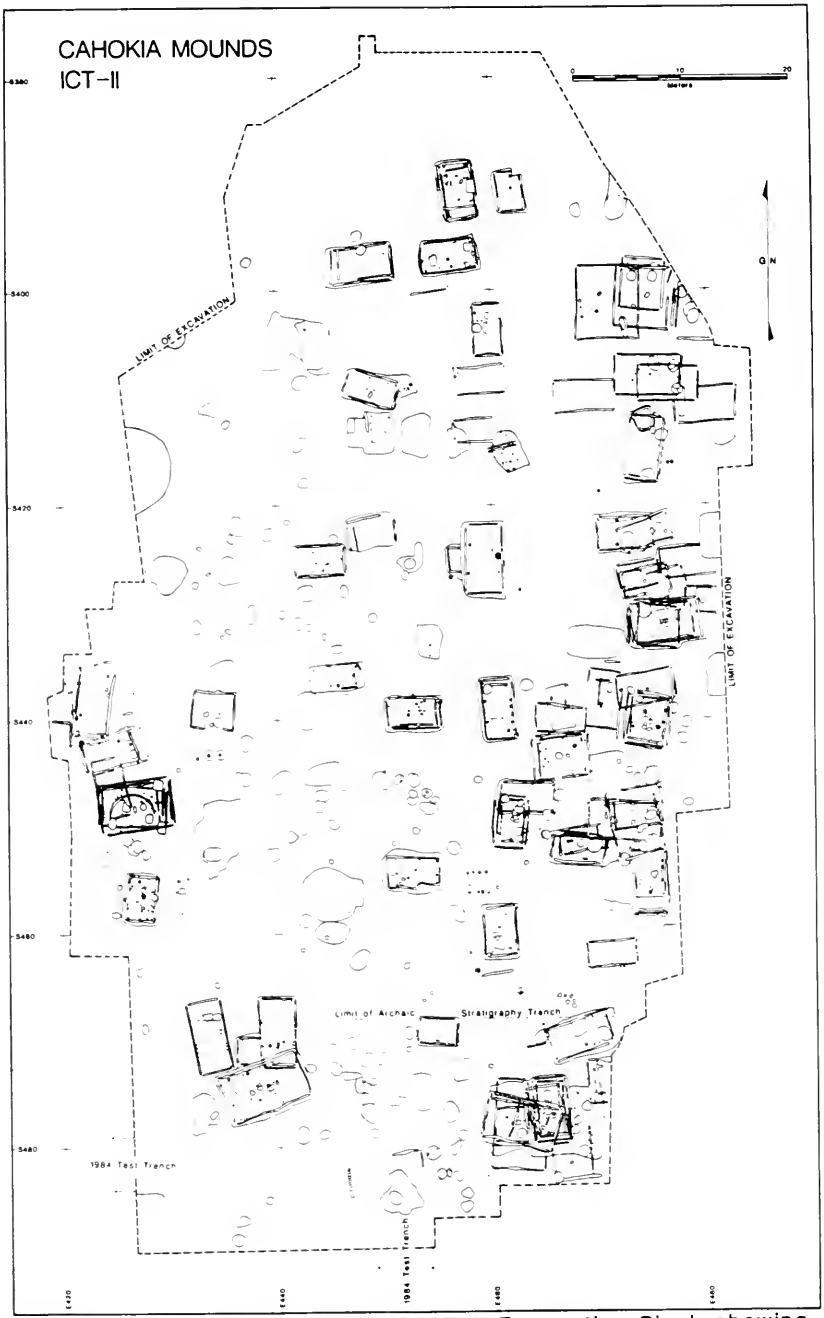


Figure 1.9. Final configuration of ICT-II Excavation Block showing feature distribution.

numbering system for Cahokia site mounds (see Fowler 1989). According to the construction design, the preserved Mound 107 would serve to separate the Interpretive Center building from the parking lot. The IHPA determined that the actual mound limits should be defined by testing prior to construction.

The IHPA was also concerned that the archaeological potential of the parking area itself not be overlooked. The agency therefore determined that the parking area should be tested to provide information about the nature of any archaeological remains present there. Such testing, it was reasoned, would provide valuable interpretative data, while the data base itself would be preserved by burial beneath the pavement.

An area encompassing the proposed parking facility and covering 4,875 m^2, was plowed and, after heavy rains, surface collected using 5 x 5 m units (Figure 1.10). This area was bounded by CMG coordinates S525–590 and E420–495. The highest material densities were located in the northern portion of the area, in the vicinity of the aforementioned mound (Figure 1.11).

For the purposes of defining the limits of Mound 107 and determining the relative density of subsurface features in the parking area, two test trenches were excavated within the surface collected area. These trenches, excavated to the base of the plowzone using the wide-bucket backhoe technique described earlier, were 5 m wide and crossed in the area of the mound (Figure 1.10). A north–south oriented trench, roughly bisecting the north–south axis of the mound, was an extension of the southernmost north–south trench excavated during the 1984 testing. The 1986 trench was deliberately offset to the east 1 m so that the 1984 and 1986 trenches could be visually distinguished on project maps (Figure 1.10). The1986 north–south oriented trench was contained within CMG coordinates S525–590 and E450–455. The east–west oriented trench, excavated across the southern portion of the mound, was contained within CMG coordinates S530–535 and E425–480.

Mound 107 limits, clearly evident within each trench, were defined and mapped following established procedures. Also evident, both within and without the mound limits, were other cultural features including pits, postmolds, and structures. These features were observed at the base of the plowzone, defined, mapped and assigned sequential feature numbers beginning with Feature 467. All ceramics were collected from feature surfaces whenever possible. Also, the upper 5 cm of each feature were trowel-probed and any ceramics encountered were recovered.

During surface collection of the parking lot area, the southeastern corner came under close scrutiny. The reason for this was two-fold: 1) close examination of the local topography revealed a barely perceptible rise in the area; and 2) close examination of the soils in the area indicated that those of the rise were anomalous when compared to the surrounding soils. The possibility existed that the low-relief feature might be a mound.

In order to determine whether the topographic feature was natural or man-made, a trench, similar to the ones described above, was excavated within CMG coordinates S585–590 and E470–485 (Figure 1.10). Placement of this trench was planned so that should the topographic feature prove to be a mound, the trench would intersect its western margin. This testing clearly indicated that the rise was indeed a low-profile mound which had been all but plowed away. After consultation with Fowler, this mound was designated Mound 106. The western limit of Mound 106 was defined and mapped. A number of features, including human burials, were observed within the mound limits. These features were defined, mapped, and assigned feature numbers in the established sequence. Ceramics, when present on feature surfaces, were recovered.

The trenched areas of both mounds located in the proposed parking area were backfilled as soon as testing in those areas was completed. The IHPA and Booker and Associates engineers were made aware of the presence and locations of both mounds immediately. The discovery of the second parking area mound prompted a series of meetings between the IHPA and its various contractors. Ultimately, the ICT–II parking facility was redesigned to avoid construction impact to both mounds.

The proposed parking area was further tested by excavating a fourth trench in the extreme southern portion (Figure 1.10). This trench, encompassed within CMG coordinates S610–615 and E380–480, was placed in an area which had previously been surface collected by University of Wisconsin–Milwaukee personnel as part of the Interpretive Center Tract–Location I project (Fowler and Benchley 1980). Once again, features encountered at the base of the 5 m wide backhoe-excavated trench were defined, mapped, and assigned sequential feature numbers. Whenever possible, ceramics were recovered from feature surfaces.

Engineering designs called for the Interpretive Center's utilities (water and sewer) to be constructed along two corridors parallel to existing Ramey Street, between the Interpretive Center building and a linkup at Collinsville Road (U.S. Highway 40). A 6" water main was to be constructed along the existing ditch

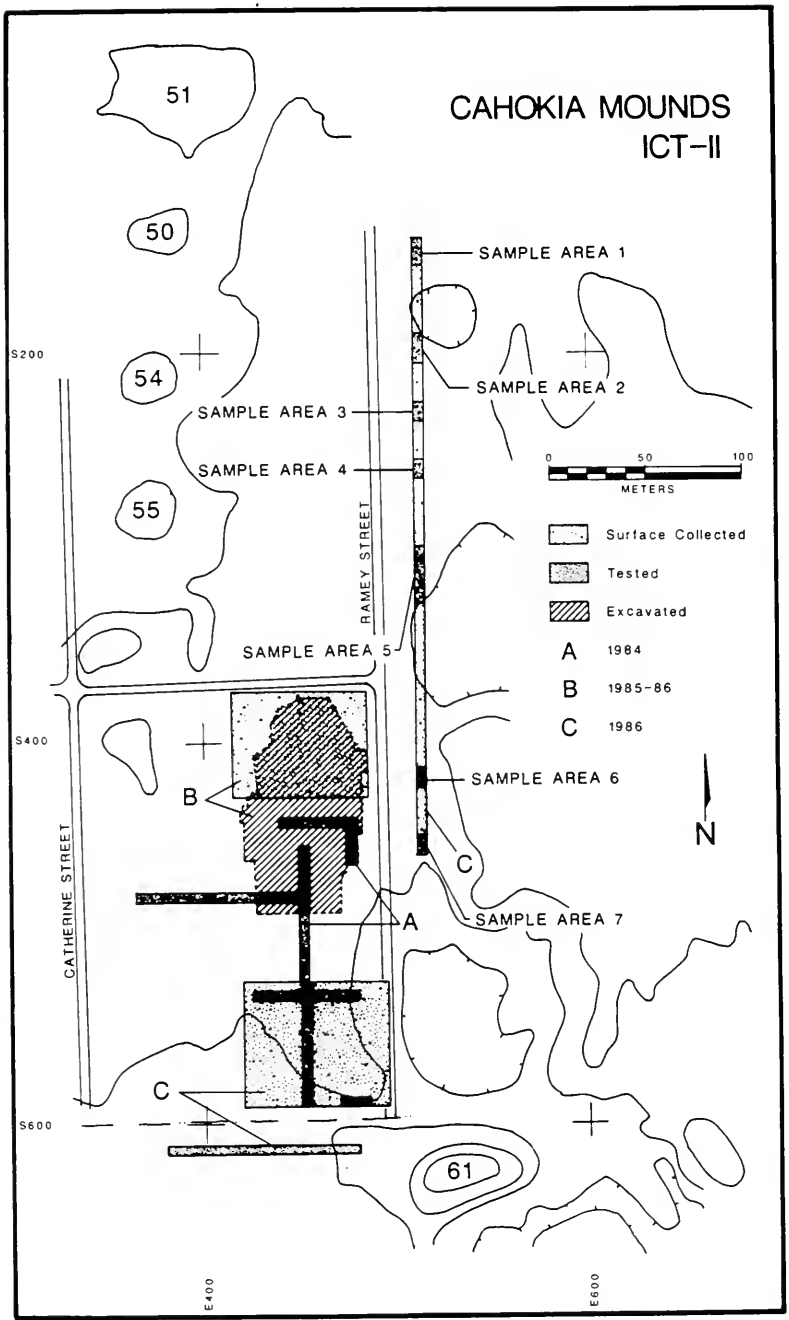


Figure 1.10. Composite of ICT-II Mitigation and Testing procedures.

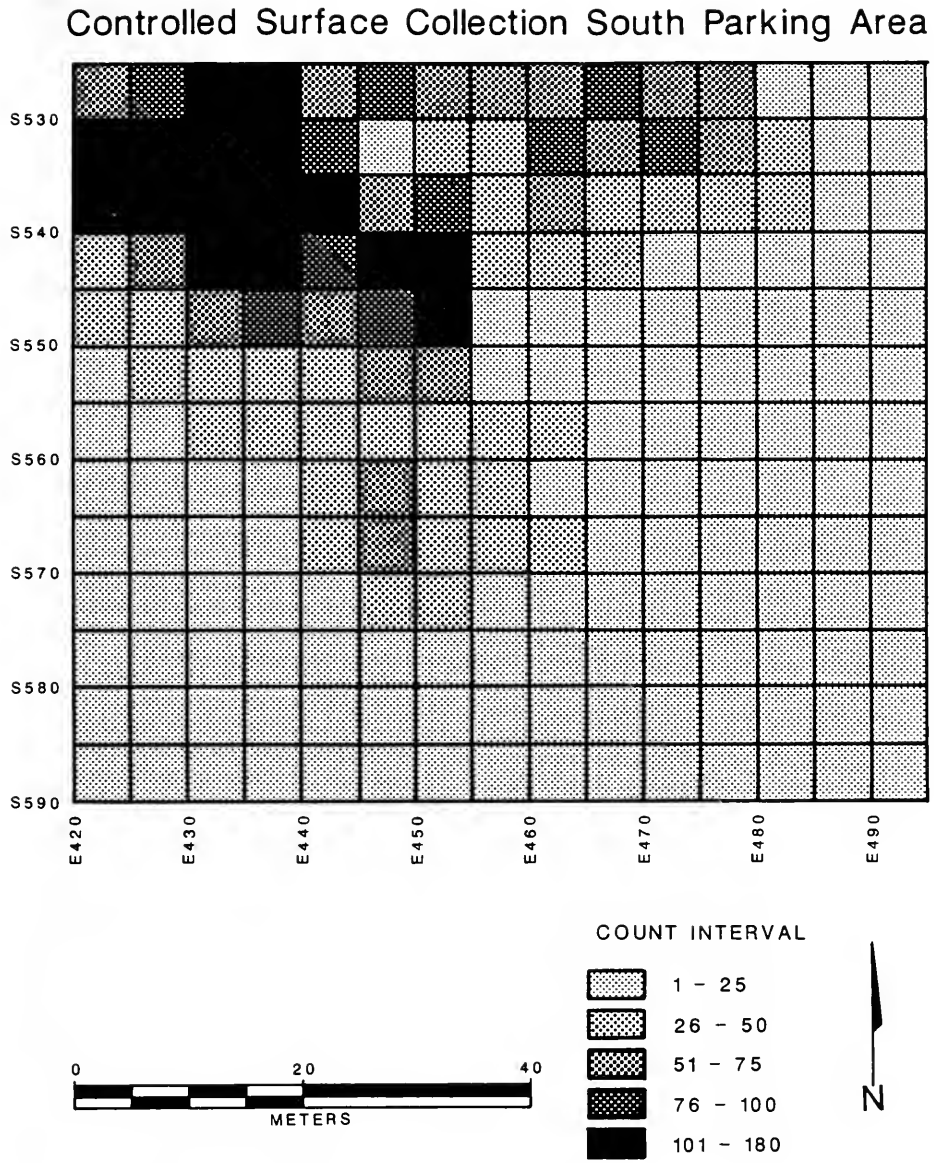


Figure 1.11. Surface density distribution of artifacts from parking area collection.

immediately east of Ramey Street, and an 8" sewer line was to be constructed along the existing ditch immediately west of Ramey Street. To place these utility lines, construction plans called for the excavation of two trenches. These trenches were to be excavated using a piece of construction equipment known as a "Ditch Witch." The Ditch Witch excavates a 10" wide trench to a depth of approximately 4 ft.

Such trenching is problematic for the archaeologist. It is the nature of the equipment that it necessarily disturbs any archaeological features it encounters. While it is true that the machine creates two fine profiles as it progresses, the profiles are difficult for the archaeologist to examine due to the extreme narrowness of the trench. From a practical standpoint, Ditch Witch excavation can be monitored, but by the time cultural remains are encountered, their context has already been impacted.

For this reason, and because the utility lines were planned to follow existing Ramey Street ditches, the IHPA determined that an alternative to monitoring should be employed for utility corridor testing. Largely because the 1984 ICT–II and 1986 parking lot testing proved so successful, the IHPA and SIUE agreed that a similar testing program should be conducted in the vicinity of the utility corridors. The goal of such testing was to determine what cultural and/or natural features were present along the corridor.

A 5 m wide corridor running parallel to, and slightly east of, the proposed utility lines along Ramey Street was plowed. This plowed corridor was contained within CMG coordinates S135–460 and E510–515 (Figure 1.10). After sufficient rainfall, the area was surface collected using 5 x 5 m units. Artifact distribution density maps were plotted for the utility test corridor as soon as the surface-collected material was washed and tabulated.

Of the 1,625 m^2 area collected along the utility test corridor, seven sample areas, totaling 500 m^2, were non-randomly selected for plowzone removal. The seven sample areas (Figure 1.10) were selected to test high and low artifact density areas, as well as high and low topographic features along the corridor. Areas tested by plowzone removal included those portions of the corridor located within CMG coordinates E510–515 and: Sample Area 1, S140–155; Sample Area 2, S190–205; Sample Area 3, S225–235; Sample Area 4, S255–265; Sample Area 5, S300–330; Sample Area 6, S415–425; and Sample Area 7, S450–460 (Figure 1.12). Plowzone removal was again accomplished using a wide-bucket backhoe. As was the case with previous testing, all features encountered at the base of the plowzone were defined, mapped, and sequentially numbered. Ceramics were again collected from feature surfaces whenever possible.

Plowzone removal in the seven sample areas revealed horizontal soil profiles that exhibited varied and rather surprising cultural and natural features. Cultural features within Sample Area 1 included a partially reconstructable vessel and six pits. Unexpectedly, the sub-plowzone soil structure in Sample Area 1 was composed of pure sand. This sandy sub-soil could only have been deposited by a previously undocumented point bar system. Features defined in Sample Area 2 included four pits and four wall trenches, two of which appear to represent a single very large structure or enclosure. These features appeared in a matrix of sterile silty sand ranging to sandy clay. One pit feature was defined within Sample Area 3. The horizontal soil profile exhibited in Sample Area 3, aside from the intrusive pit, was difficult to interpret. The soil was not sterile, yet did not appear midden-derived or feature-like in the normal sense. The Sample Area 3 sub-soil appeared to represent a man-made surface of unknown function. The sub-plowzone horizontal soil profile in Sample Area 4 was similar to that of Sample Area 3, but no intrusive features were present on the apparently man-made surface. Sample Area 5 displayed a sub-plowzone horizontal profile composed entirely of undifferentiated fill derived from midden. Likewise, Sample Area 6 exhibited solid, undifferentiated feature fill at the base of the plowzone, but the fill noted in Sample Area 6 was more reminiscent of the fill of multiple, superimposed structural features than the accumulation of midden noted in Sample Area 5. Sample Area 7 displayed a sub-plowzone horizontal profile thatincluded pit features superimposing both undifferentiated feature fill, similar to that of Sample Area 6, and sterile Darwin series clay (Figure 1.13).

The unusual sub-soil characteristics encountered in Sample Areas 3 and 4 were both confusing and intriguing. These soils were obviously not natural, but they were also virtually devoid of cultural debris. In order to determine the nature of the stratigraphy in Sample Areas 3 and 4, a deep, backhoe test trench was excavated in each area. Within Sample Area 3, Deep Backhoe Trench 1 was encompassed by CMG coordinates S227–230 and E510–511. Deep Backhoe Trench 2, in Sample Area 4, was encompassed by CMG coordinates S257–260 and E510–511 (Figure 1.12). Vertical profiles resulting from the deep backhoe trenches documented an extraordinarily complex cultural and natural depositional sequence (Figures 1.14 and

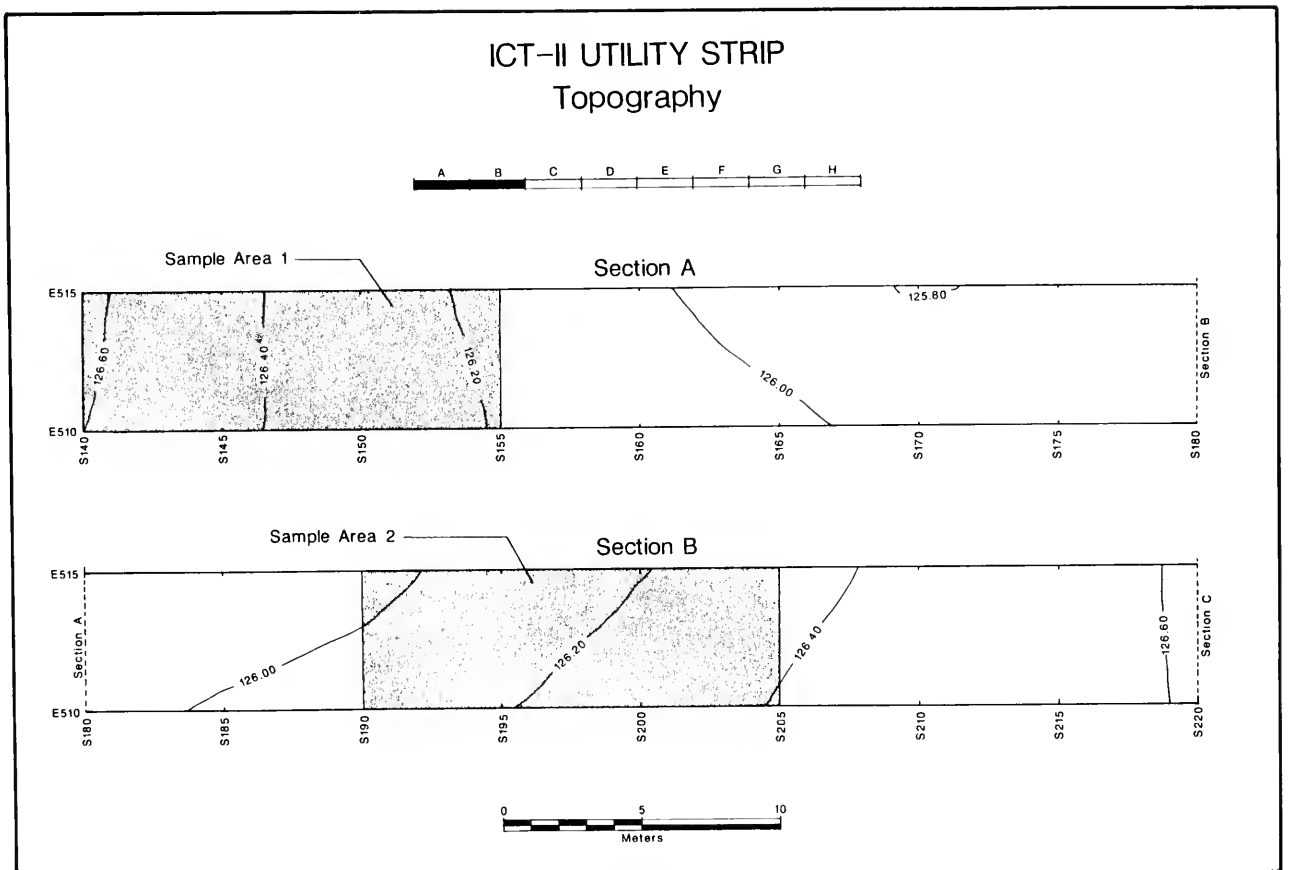


Figure 1.12. Utility corridor showing locations of Sample Areas 1 - 7 and Deep Backhoe Trenches 1 and 2.

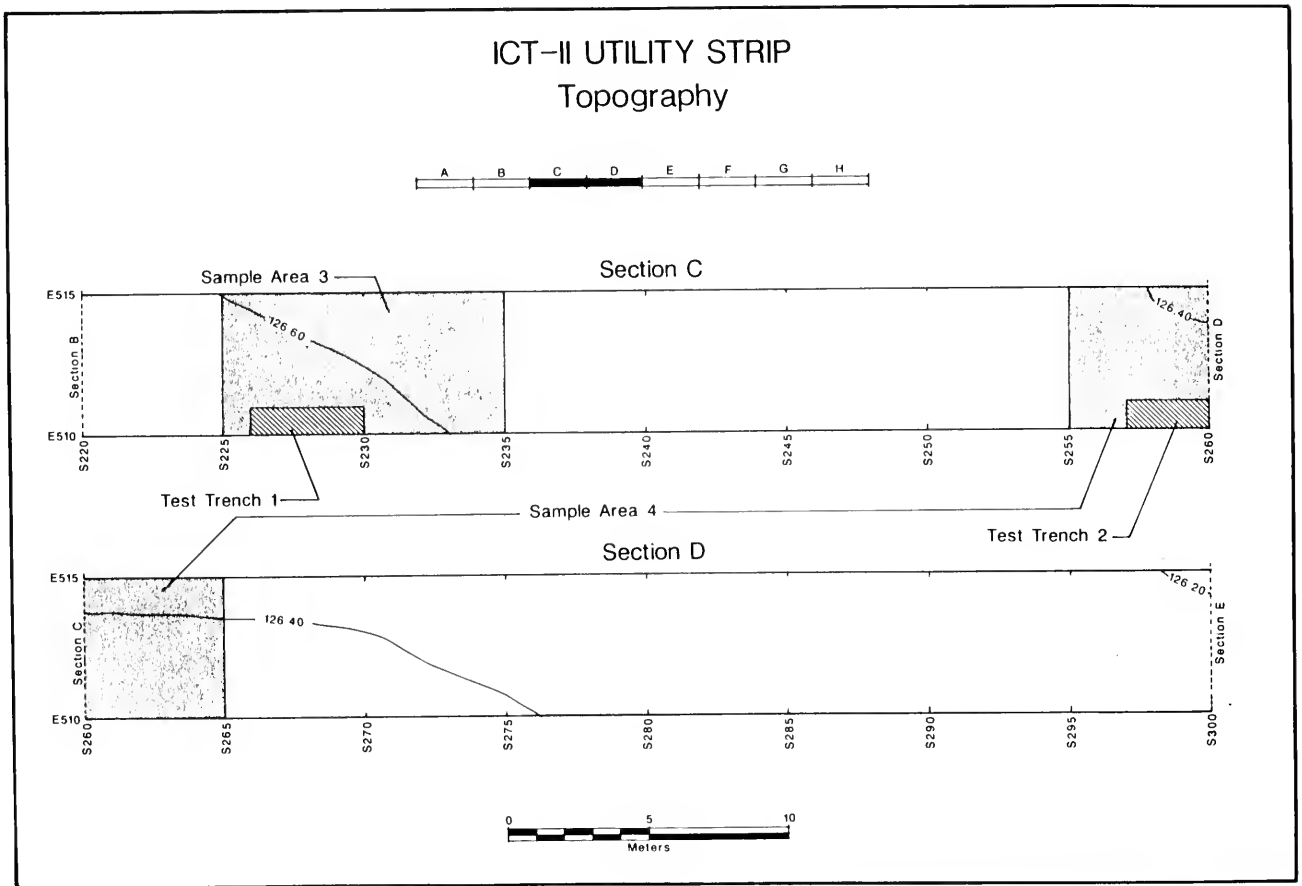


Figure 1.12 continued. Utility corridor showing locations of Sample Areas 1 – 7 and Deep Backhoe Trenches 1 and 2.

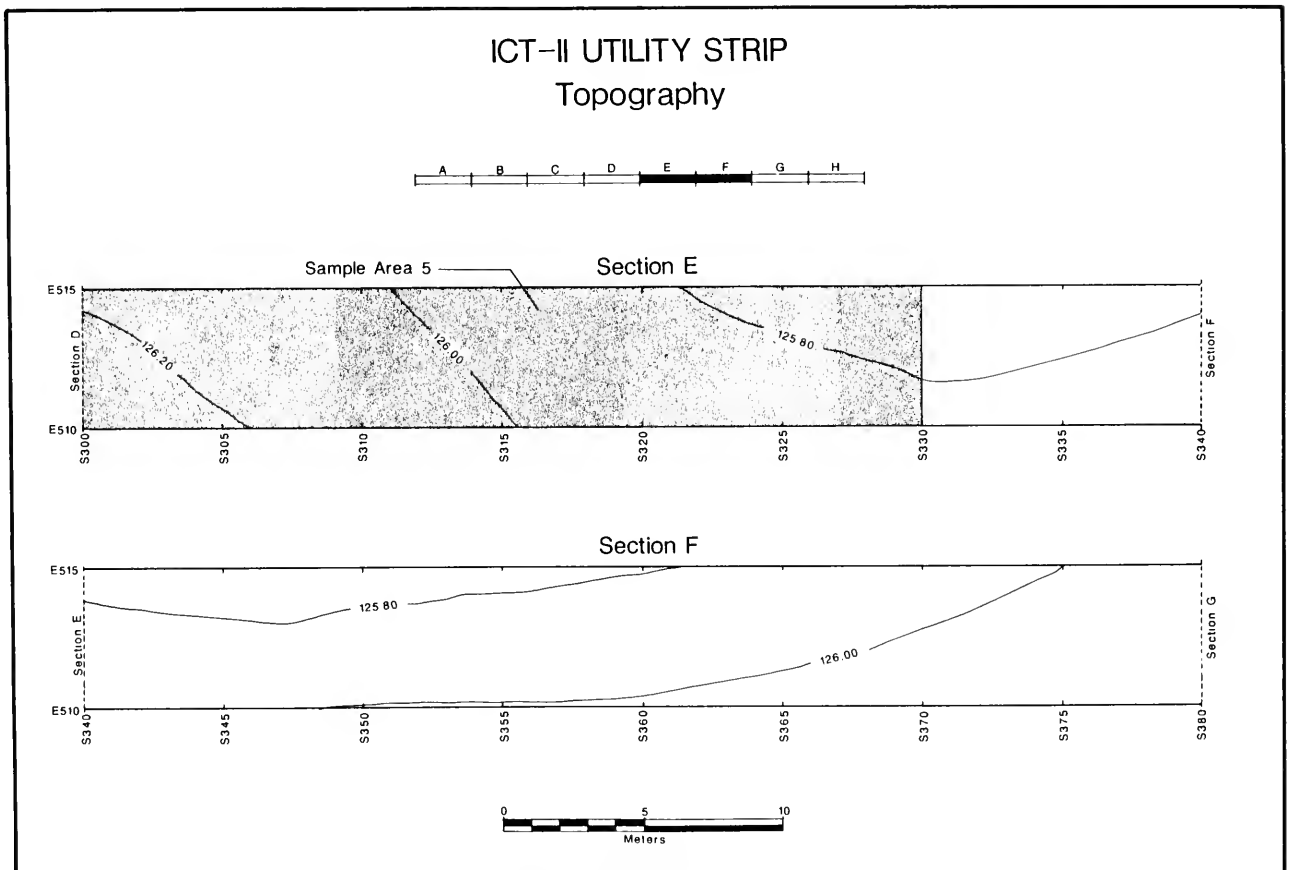


Figure 1.12 continued. Utility corridor showing locations of Sample Areas 1 – 7 and Deep Backhoe Trenches 1 and 2.

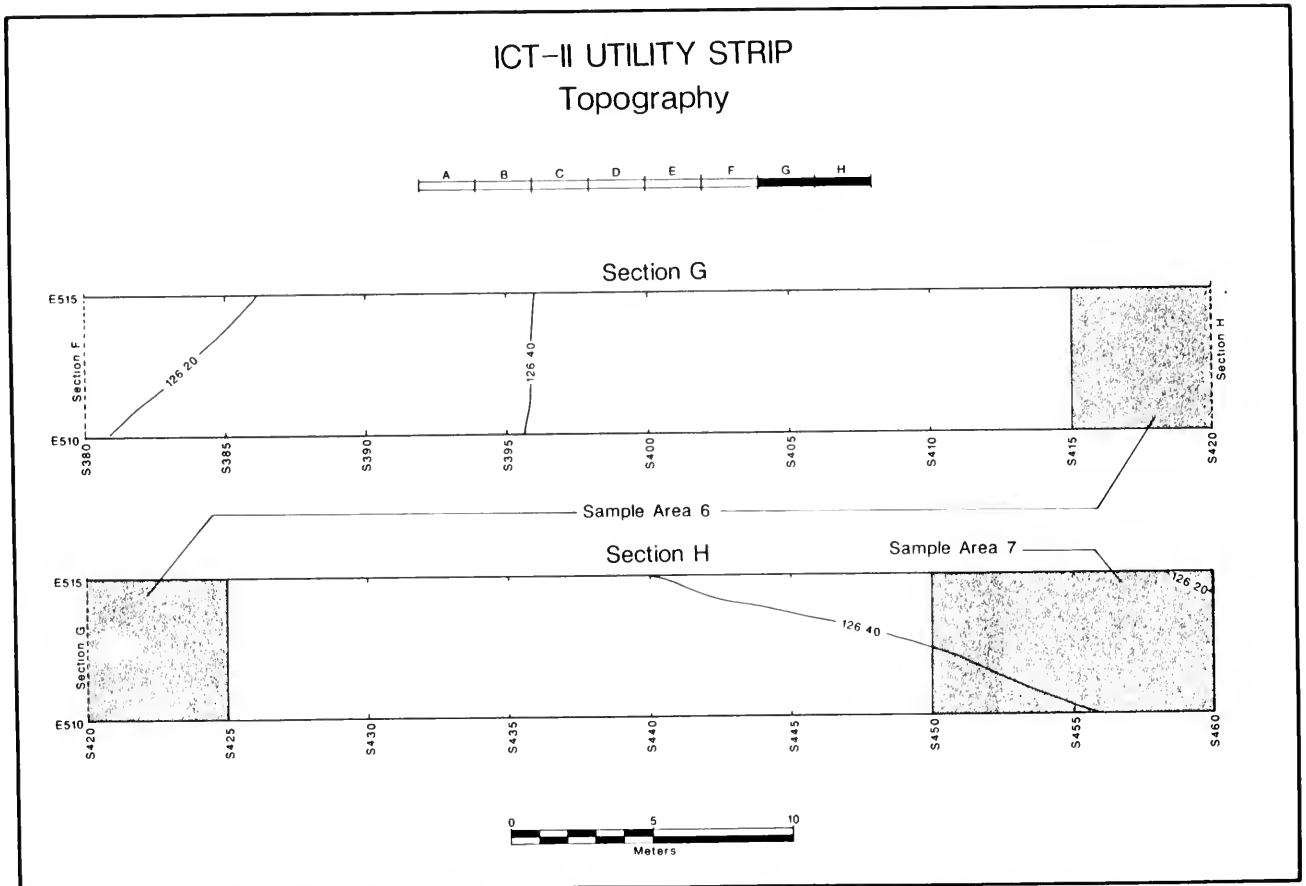


Figure 1.12 continued. Utility corridor showing locations of Sample Areas 1 – 7 and Deep Backhoe Trenches 1 and 2.

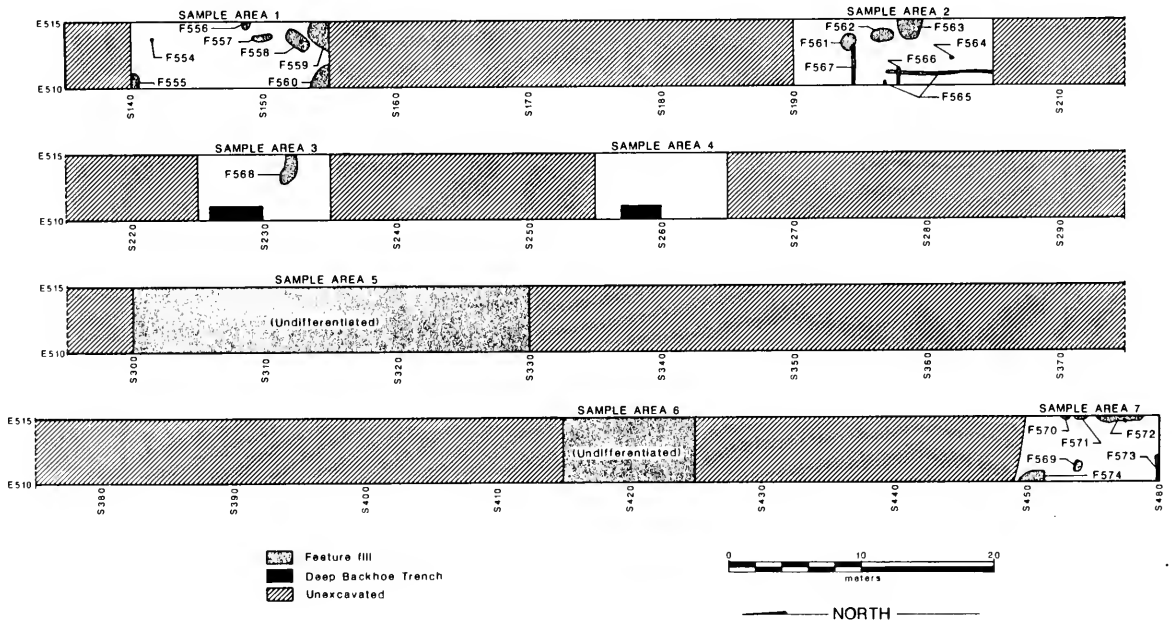


Figure 1.13. Sample Areas 1 - 7 showing sub-plowzone feature distribution.

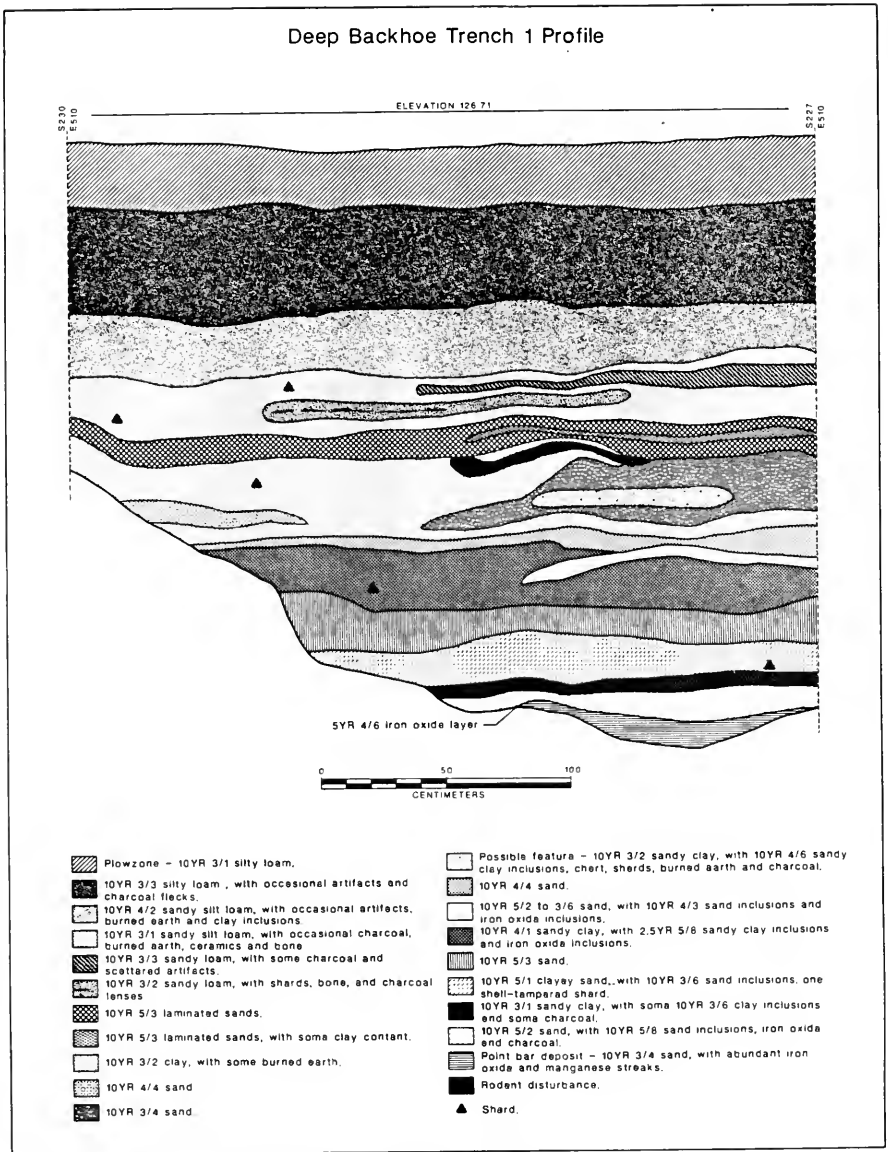


Figure 1.14. Profile of Deep Backhoe Trench 1.

1.15). Following the work described above, the utility test corridor was backfilled and 1986 fieldwork was terminated.

The ceremonial ground breaking for the new Interpretive Center took place on 22 July 1986. IHPA Director Dr. Michael Devine presided over the ceremony in which Governor James Thompson headed a group of state and local dignitaries. Actual museum construction began 15 July 1987. SIUE personnel were available for archaeological monitoring whenever necessary during construction. The excavation of utility line ditches was monitored and proceeded without significant impact on archaeological remains.

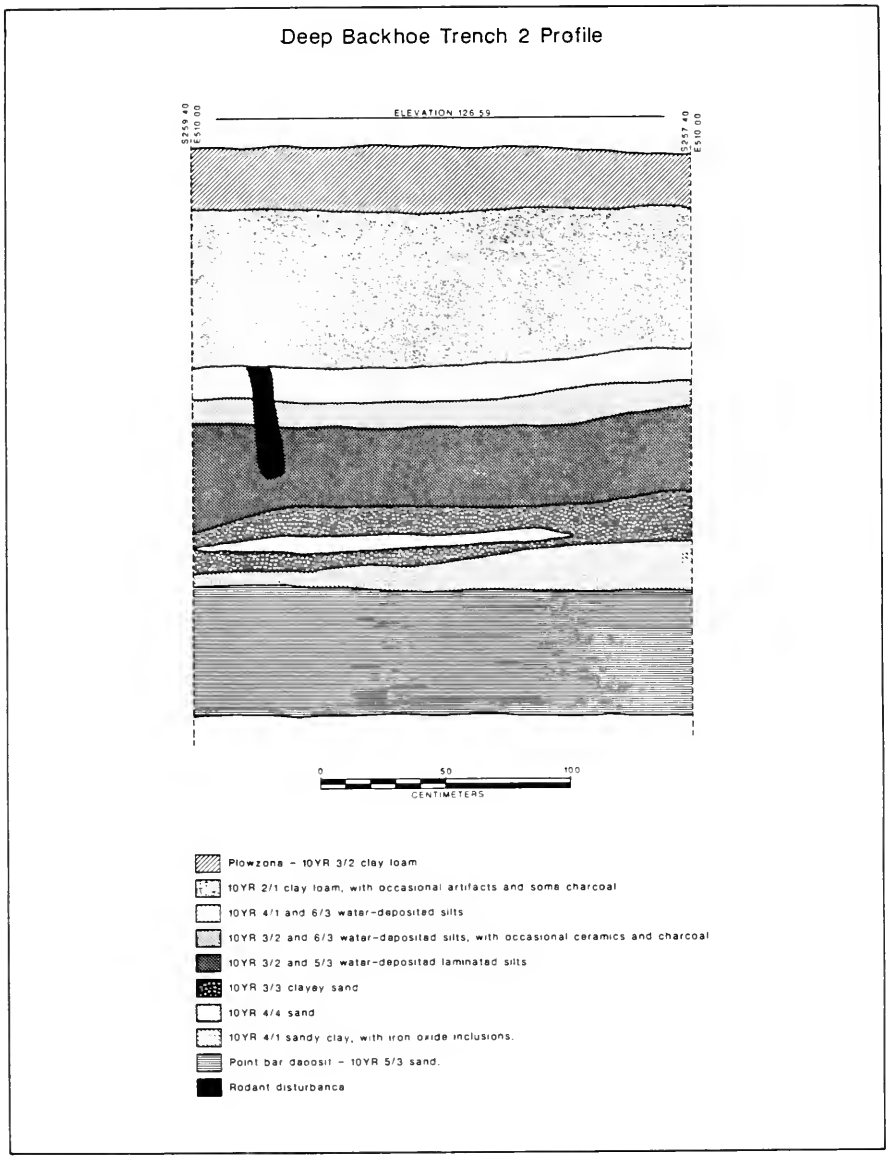


Figure 1.15. Profile of Deep Backhoe Trench 2.

II. SITE STRUCTURE IN THE AMERICAN BOTTOM : ca. A.D. 900–1250

The transition from Late Woodland to Mississippian culture has been among the most poorly understood cultural phenomena in the Midwest. Throughout much of the region, this transition appears not to have occurred at all. Rather, Late Woodland lifeways continued essentially unchanged into the proto-historic period. The relationship of rather isolated Mississippian enclaves (e.g., Aztalan) to the Cahokia center have not yet been satisfactorily explained.

Emergent Mississippian Settlement Patterns in the American Bottom

Recent work in the American Bottom has done much to expand the knowledge of cultural trends during the transition from Late Woodland to Mississippian (Bareis and Porter 1984). The term "Emergent Mississippian" has been applied to the period A.D. 800-1000 in the American Bottom and supersedes "Late Bluff culture" (A.D. 800–900) and the first two-thirds of "Fairmount phase Mississippian" (A.D. 900–1000), which were formerly used. For over a decade, since the Cahokia Ceramic Conference of 1971, the Mississippian period had been viewed as comprising a temporal sequence that included the Fairmount, Stirling, Moorehead, and Sand Prairie phases (Fowler and Hall 1972, 1975; Hall 1975a). More recent work has determined that "the cultural content of the Fairmount phase is found to be sufficiently diverse to warrant its division into distinct phases affiliated with the Emergent Mississippian and Mississippian periods" (Milner et al. 1984:158). A newly defined phase, the Lohmann phase, corresponds to the latter one-third of the previously defined Fairmount phase (A.D. 1000–1050). The Stirling, Moorehead, and Sand Prairie phase Mississippian designations have been retained. The following is intended as a brief overview of American Bottom culture history, as now defined, during the period A.D 900–1250. This period includes the last half of the Emergent Mississippian period through the period of Mississippian efflorescence (Figure 2.1).

Emergent Mississippian sites have been located in several environmental zones in the floodplain and uplands, including the banks of oxbow lakes, alluvial fans at valley openings, and on the bluffs adjacent to the Mississippi floodplain and its major tributary streams. Site types range from small farmsteads to large communities. Based on site locations in areas suitable for agriculture, the presence of carbonized corn in features, and the intensity of the occupations, Emergent Mississippian communities are generally viewed as permanent agrarian settlements. Between Late Woodland and Early Mississippian times, there appears to have been a decrease in areal size of settlements while there was an increase in the number of structures per occupation as well as an increase in individual structure size. This pattern has been viewed as reflecting an adaptation to population increases that caused agricultural lands and suitable occupation areas to be at a premium (Kelly et al. 1984b:156).

While there was heavy emphasis on maize in Emergent Mississippian subsistence, the diet remained diversified. Fish and other aquatic species provided a major source of protein. Other subsistence resources included deer, turkey, prairie chicken, nuts, and salt. Most subsistence resources were available within 2 km of settlements (Kelly et al. 1984b:156).

Seven phases have been proposed to reflect the temporal and spatial variation in Emergent Mississippian culture in the American Bottom. The Dohack, Range, George Reeves, and Lindeman phases are all represented in the southern portion of the American Bottom, while the Loyd, Merrell, and Edelhardt phases have been defined for the northern American Bottom. The George Reeves, Lindeman, Merrell, and Edelhardt phases are discussed below, with specific attention paid to variations in settlement-related data (primarily structural).

The known distribution of George Reeves phase sites is presently restricted to two communities, the George Reeves site, located on the bluff-crest, and the Range site, on the floodplain. Both sites have been excavated but to date, only the George Reeves site assemblage has been reported (McElrath and Finney 1987). It is believed the phase spans the period A.D. 900–950.

The community pattern evidenced at the type site consisted of six structures arranged linearly from north to south, and a single isolated structure located 15 m west of the linear group. Three sub-floor pits were present in the latter structure, which was smaller than the other six. Of the six structures in the linear pattern, only one contained a sub-floor pit. George Reeves phase domestic structures average 3.65 m in length, 2.87 m in width, and 0.42 m in depth (Kelly et al. 1984b:144).

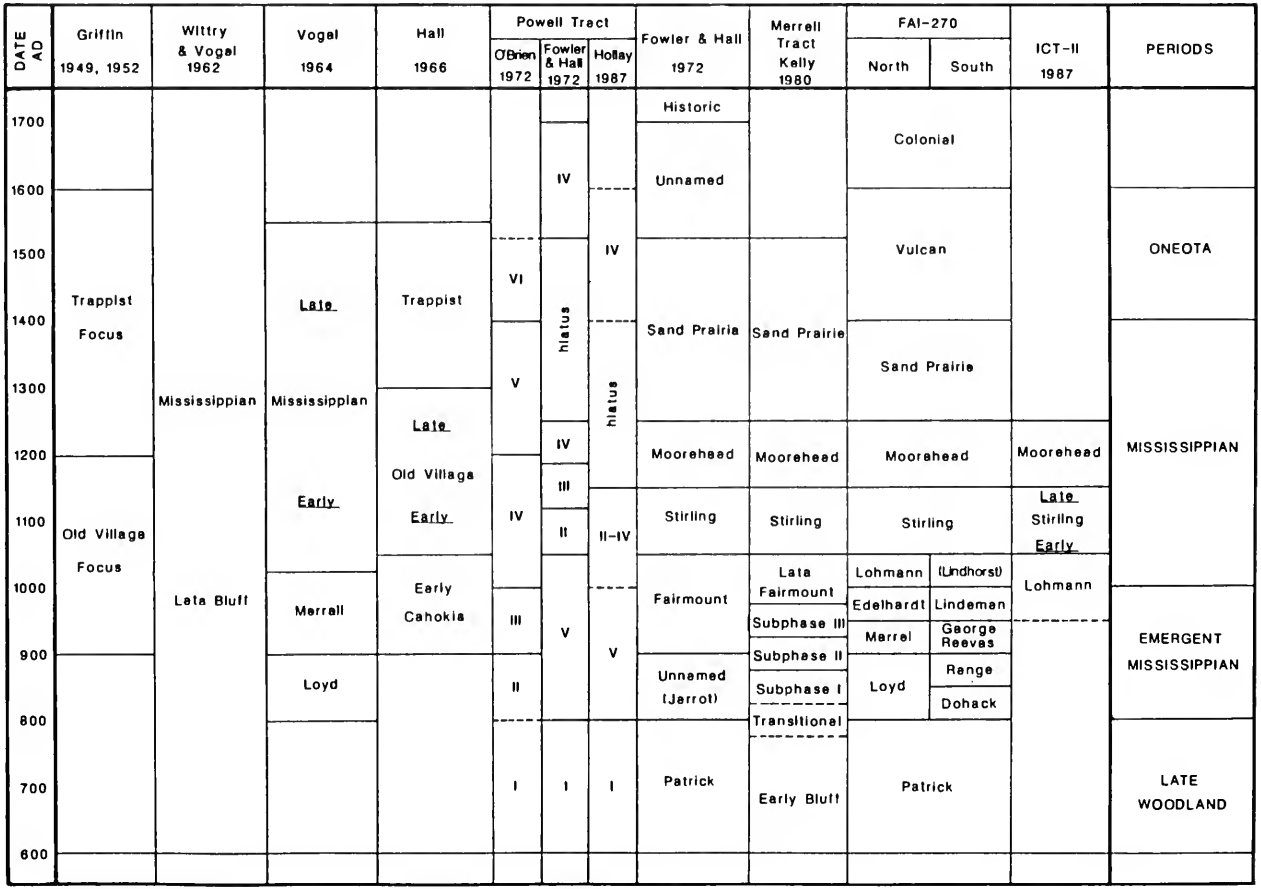


Figure 2.1. Composite of proposed cultural chronologies for Cahokia and the American Bottom.

The Lindeman phase is the last Emergent Mississippian phase defined in the southern American Bottom and dates from ca. A.D. 950–1000. Lindeman phase components have been excavated at four sites in the southern American Bottom area including Range, Schlemmer, Marcus (Emerson and Jackson 1980), and George Reeves (McElrath and Finney 1987). All but the George Reeves site are located within the Mississippi River trench. A nucleated community was represented at the Range site, located on the shore of Prairie Lake. The other three settlements have been characterized as farmsteads (Kelly et al. 1984b:147).

The Lindeman phase settlement at the Range site consisted of at least 100 structures within an area of about 0.5 ha. Kelly et al. (1984b:147) suggest "the restricted distribution of these structures is indication of a nucleated settlement of some duration, within which some of the structures are arranged in rows." While no plaza areas were identified, the four-pit configuration noted in plaza areas of Range phase components was present. However, such a configuration occurred in peripheral areas of the Lindeman phase community. Lindeman phase structures tended to be larger (up to 12 m^2) than those of earlier phases and generally varied in size and morphology (Kelly et al. 1984b:147).

The Merrell phase is the second Emergent Mississippian phase defined in the northern American Bottom locality, apparently developing out of the earlier Loyd phase. The Merrell phase, ca. A.D. 900–950, is coeval with the George Reeves phase of the southern American Bottom. Excavated Merrell phase features include structures, pits, and isolated postmolds. Structures exhibit considerable variability in size and shape, suggesting functional differences. "The structures were semisubterranean, constructed within rectangular basins with walls composed of posts set individually in the basin floor" (Kelly et al. 1984b:151). Structures display rectangular, square, and L-shaped plans. Pit features exhibit circular to oval orifices and shallow profiles and have been inferred to represent storage facilities (Kelly et al. 1984b:151).

An excavated Merrell phase community at the Robinson's Lake site (Milner, Cox and Meinkoth 1982; Milner 1984a) consisted of ten structures and 48 other features within a 22 x 36 m area inferred to represent a farmstead or small hamlet.

> Large structures dominated the central portion of the site with smaller structures located at or near the community periphery, reinforcing the specialized function of these structures. Storage pits were concentrated in two areas in the northwestern portion of the site. The rebuilding of structures in the central area and the location of the pit clusters suggests that areas were set aside for specialized use, which also is evident in the distribution of faunal remains. Although the sample is small, 75% of the faunal material was recovered from two features located near the southern edge of the settlement. This area is interpreted as a locus for butchering and meat processing activities [Milner et al. 1982:112].

The terminal Emergent Mississippian phase in the northern American Bottom is the Edlehardt phase (A.D. 950–1000). This phase encompasses the middle one-third of the previously defined Fairmount phase (Fowler and Hall 1972, 1975). Features associated with the Edelhardt phase include structures, pits, postmolds, and hearths. Structures were of single post construction with rectangular basins. Structure size varied, with small structures (less than 4 m^2) interpreted as storage facilities and larger structures interpreted as habitation units (Emerson and Jackson 1982, 1984; Kelly et al. 1984b:154). Nearly all excavated Edelhardt phase pit features have oval or circular orifices. Pit profiles exhibit basin-shaped, cylindrical, or modified cylindrical profiles and range in depth from 16 to 48 cm (Kelly et al. 1984b:154).

An Edelhardt community at the BBB Motor site (Emerson and Jackson 1982, 1984) consisted of 16 structures and numerous pit features arranged linearly along a ridge adjacent to a small floodplain lake. Three clusters of structures and pits were defined within a 1600 m^2 area of the site. Each cluster contained four to seven habitation structures and one of the small storage structures. Pit features were distributed throughout the community, in close proximity to the structures. These feature clusters are thought to represent extended family or kin-related groups, integrated into a small community (Emerson and Jackson 1984:162).

Mississippian Settlement Patterns in the American Bottom

Mississippian period remains were first recognized as comprising a distinct cultural tradition early in this century (Holmes 1903). Sites related to the Mississippian Tradition are found along river valleys from the Gulf of Mexico to Wisconsin and from Oklahoma to Georgia (Griffin 1967). Mississippian

culture was perhaps nowhere more complex than in the American Bottom where Fowler (1974, 1978) has suggested a settlement pattern organized on a hierarchical model of first-, second-, third-, and fourth-line communities. This model holds that large, permanent towns and villages were surrounded by smaller farmsteads and supportive camps situated in a variety of habitats (Figure 2.2).

> The Cahokia site is the only first-line community. It is without doubt the largest prehistoric site in North America north of Central Mexico. At present estimate it is thought to encompass over 3700 square acres (5.8 sq. Miles, 15.02 sq. Kms.) and to include within this more than 100 mounds of various sizes and shapes. The largest of these features, and the one which dominates the site is Monks Mound. This structure covering 15 acres of ground and rising to over 100 feet above the valley floor, is second only to Cholula and the Pyramid of the Sun at Teotihuacan in size of man-made structures in North America [Fowler 1969:1].

The population of Cahokia has been estimated to be on the magnitude of tens of thousands (Fowler 1987; Gregg 1975a). Numerous plazas (Fowler 1978), ceremonial areas (Wittry 1969), and ritual areas (Collins 1987) are postulated, and there are excavated data to suggest the central portion of the site was fortified by a timber palisade (Anderson 1969). It has been hypothesized that this core area housed the bureaucratic seat of power, elite socio-political leaders, and the nerve center of an interregional material and ideological exchange network (Porter 1969; Hall 1975b; Kelly 1983; Anderson 1987; etc.).

Several other large, multiple mound centers existed in the area and represent the so-called second-line communities. Among these are the Mitchell site (Howland 1877; Porter 1960, 1974), the Lunsford-Pulcher site (Freimuth 1974; Griffin 1977), the East St. Louis Mound group or "Metro Group" (Snyder 1909; Throop 1928; Brandt 1972; Fowler 1978), the St. Louis site (Peale 1862; Conant 1877; Williams and Goggin 1956; Chapman 1980), the McDonaugh Lake site (Munson 1971; Harn 1971; Brandt 1972), the Grassy Lake site (Thomas 1985; Griffin 1951; Harn 1971; Brandt 1972), and the Emerald site (Moorehead 1929; Winters and Struever 1962; Pauketat and Koldehoff 1983). The relationship of these local centers to Cahokia and other sites in the regional infrastructure has not been clearly defined.

Third-line communities are distinguished by the presence of a single mound. In the American Bottom, third-line communities encompass 10 to 30 acres and are situated on the banks of floodplain lakes. Among the so-called third-line communities in the American Bottom are the Horseshoe Lake site (Gregg 1975b), and the Lohmann site (Esarey and Good 1981). It is often assumed these sites constitute lesser elements in a complex settlement tier. Such sites have been interpreted as centers for specialized production within the Cahokia settlement system (Gregg 1975b), which administered a population of small, shifting settlements of producers. As such, these towns would have been "more directly tied to the implements of their subsistence (their farmsteads), with the entire extended community displaying an increased emphasis on services such as craft specialization instead of regional and extra-regional raw material trade" (Esarey and Good 1981:153).

Fourth-line communities in the American Bottom are Mississippian sites without mounds. These smaller villages, hamlets, and farmsteads most likely supported the larger centers with varying degrees of economic input. Many so-called fourth-line communities have been excavated in recent years in connection with the FAI–270 and FAI–255 archaeological projects (Bareis and Porter 1984).

Mississippian Developments at Cahokia

During the Mississippian period:

> Variations among commonly occurring jars serve as the primary means of differentiating the various Mississippian cultural phases. Jar attributes that change through the Mississippian cultural sequence include the shape of jar rims and jar shoulders, the material used as vessel tempers, and the finish applied to exterior vessel surfaces [Milner et al. 1984:161].

The earliest Mississippian phase in the American Bottom is the recently defined Lohmann phase (A.D. 1000–1050). Lohmann phase materials at Cahokia were defined for the first time during the ICT–II

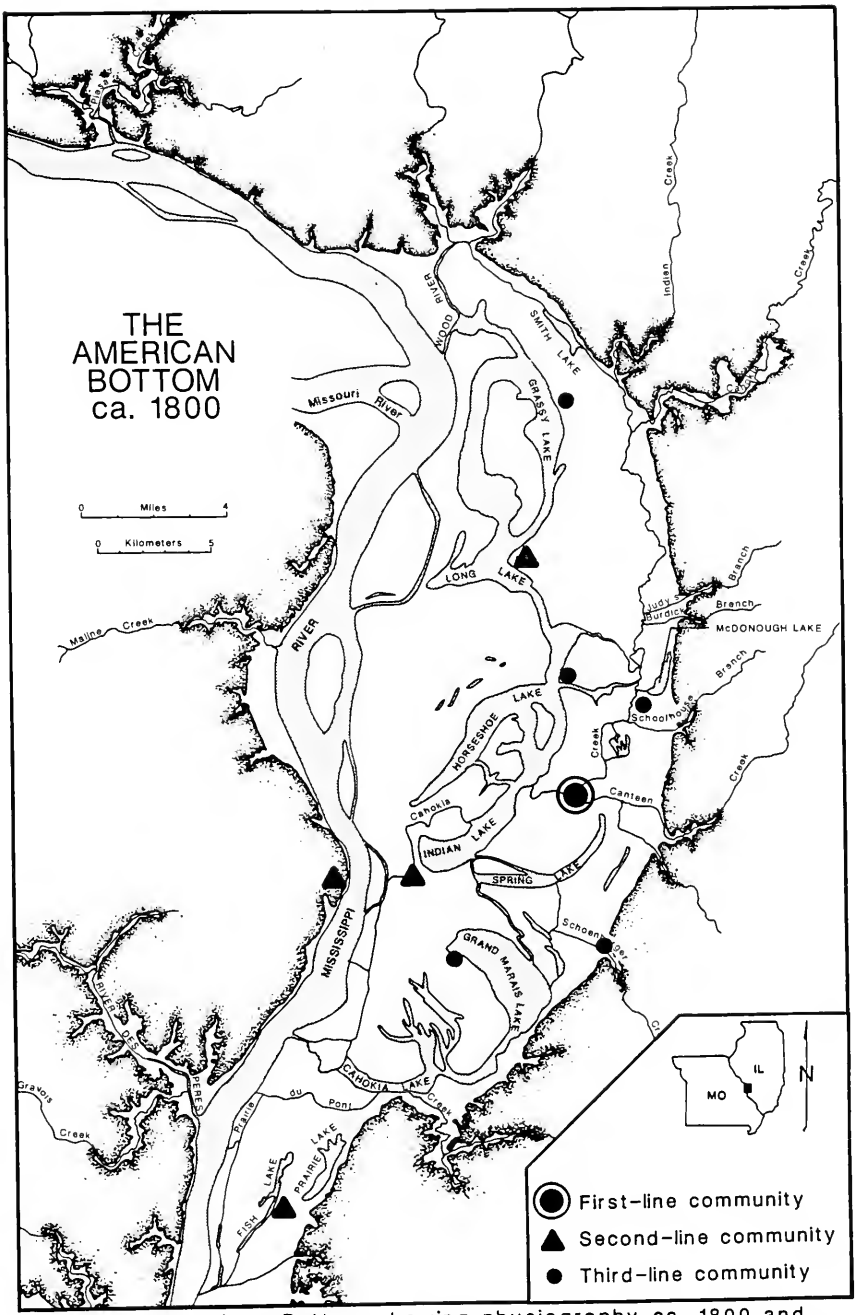


Figure 2.2. American Bottom showing physiography ca. 1800 and location of major Mississippian sites (after Fowler 1978 and Gregg 1975).

mitigation project. Lohmann phase ceramic assemblages include jars, seed jars, bowls, beakers, water bottles, juice presses, and stumpware in generally descending order of frequency.

Lohmann phase jar rims are most commonly angled and everted. While rolled and extruded rim forms are common, they occur in lower frequencies. Lohmann phase jars are tempered with crushed shell, grog, grit, or limestone and characteristically have angular or hyper-angular shoulders. In all but the earliest assemblages, shell is the predominant tempering agent. John Kelly (personal communication 1987) has recently defined an early Mississippian Lindhorst phase in the southern American Bottom which is distinguished from the Lohmann phase primarily on the basis of a predominance of limestone, rather than shell, tempered jars. Lohmann phase jar surfaces are usually plain, brown-filmed, or black-filmed. In addition to jars, characteristic Lohmann phase vessel forms include the limestone-tempered, red-filmed Monks Mound Red bowls, short-necked water bottles, grog-tempered stumpware, and juice presses decorated with vertically-oriented, parallel, incised lines (Milner et al. 1984:161, 163).

Ceramic assemblages recovered from Lohmann features at the ICT–II nearly approximate in quality the high standards of the Stirling Ceramic Complex. Holley (1989) provides a detailed analysis of Lohmann ceramics from Cahokia. In addition to Emergent Mississippian traits such as limestone tempering, characteristics of Cahokia Lohmann ceramics include shell tempering, slipped surfaces, and shallow jars with everted rims.

All Mississippian phase lithic assemblages include locally available Burlington chert, chert from the Crescent Hills Quarries in Missouri, and Mill Creek and Kaolin cherts from southern Illinois. More Mill Creek and less Ste. Genevieve chert has been noted in Mississippian assemblages from American Bottom sites than from Emergent Mississippian assemblages. Projectile points recovered from Lohmann phase contexts outside Cahokia are side-notched, corner-notched, or triangular. A higher frequency of microdrills has been reported from Lohmann contexts than from other Mississippian phase assemblages from the American Bottom (Milner et al. 1984:163, 165).

At the ICT–II, serrated, notched projectile points similar to those found as grave paraphernalia in Mound 72 (Fowler 1969) were most prevalent in Lohmann feature contexts. Microdrills were also found in greater frequencies in Lohmann contexts than in features of other phases; however, it is possible this only reflects the ratio of excavated feature volume per phase. Also, differing morphological definitions of microdrills used by other researchers in the American Bottom (cf., Esarey and Good 1981; Mason and Perino 1961) complicated specific tool identification. Hixton Quartzite was present in greater quantity in Lohmann contexts at the ICT–II than has been noted for later Mississippian phases. For a detailed discussion of the Lohmann phase lithic assemblage from the ICT–II, see DeMott (n.d.) and Gums (1989).

Excavated Lohmann phase features include structures, pits, postmolds, and postpits. Structures are generally rectangular with semisubterranean basins. Wall trenches as a structural foundation type appear for the first time during the Lohmann phase. About two-thirds of the Lohmann phase structures excavated during the FAI–270 investigations displayed wall trenches, and the remaining one-third were of single post construction. At the ICT–II, 100% of the Lohmann phase domestic structures exhibited wall trenches. Internal storage pits are rare inside Lohmann structures; more prevalent are small, shallow, interior pits. Most Lohmann pits were located outside of structures or structure clusters in discrete groups which, together with the associated structure(s), have been interpreted as representing households (Milner et al. 1984:165; see also discussion below).

Lohmann phase subsistence was based on locally abundant bottomland and upland resources. Migratory waterfowl, deer, and fish appear to have been heavily exploited. Floral resources that appear to have been most important include maize, maygrass, knotweed, goosefoot, wild bean, and hickory nuts (Milner et al. 1984:165; Lopinot 1988; Kelly1988). There is little evidence from the ICT–II that Lohmann populations at Cahokia relied heavily on wild bean (Lopinot 1988).

During the Lohmann phase the following cultural developments took place: 1) construction of Monks Mound was begun; 2) the overall Cahokia community plan crystallized; 3) "woodhenges" were constructed; and 4) an elaborate ceremonialism, apparently including human sacrifice, developed in connection with elite burials (Fowler and Hall 1972:4; also see Fowler 1969; Wittry 1969; Collins et al. 1986; Collins et al. 1987; Brown et al. 1986).

The succeeding Stirling phase is believed to date from approximately A.D. 1050–1150. Shell-tempered jars are the most common vessels recovered from Stirling contexts. Bowls are also common,

while beakers, water bottles, hooded water bottles, seed jars, juice presses, and stumpware occur in lower frequencies (Milner et al. 1984:168).

Most Stirling phase jars display an angled rim form while everted and rolled jar rims also commonly occur. Thickened rims, which have clay added to the interior neck surfaces, are usually plain, but filmed, and filmed and decorated surface treatments sometimes occur. Films are most often black or brown. The Powell Plain jar type is very common. Ramey Incised jars occur for the first time during the Stirling phase. Stirling phase seed jars usually are shell-tempered and display red-filmed, undecorated exteriors (Milner et al. 1984:168).

Holley (1989) has divided the Stirling Ceramic Complex into early and late facets based on the data from the 1CT–II. Early Stirling ceramics still bear traces of an Emergent Mississippian heritage, but the Ramey Incised type and other Stirling traits such as the Powell Plain type, beakers, and elaboration of the jar and bowl forms dominate the assemblage. Late Stirling is recognized by the appearance of jars with sharply angled rims, an increase in the frequency of Ramey Incised jars, and cordmarked ceramics, which are considered possible precursors of the true Cahokia Cordmarked type.

The Stirling phase chert tool assemblage does not differ radically from Lohmann assemblages. Projectile points are triangular, notched, or stemmed. Microdrills may occur less frequently than in Lohmann assemblages, but the microdrill industry has not been subjected to rigorous statistical or morphological analysis and the lower Stirling frequency may be more apparent than real (DeMott n.d.).

On fourth-line Mississippian sites excavated in the American Bottom,

> Stirling phase features were scattered along the slopes and crests of bottomland ridges in spatially discrete groups consisting of one, or occasionally more, structures with their internal and external features, mostly pits, situated nearby. The pits located outside of the structures were either situated singly or in groups displaying well-defined limits [Milner et al. 1984:173].

Structures included rectangular, semisubterranean houses, 90% of which exhibited wall trenches; circular, single-post structures with interior hearths, which have been interpreted as sweatlodges; and small, shallow, rectangular basins exhibiting a few small postmolds along their edges. The function of the latter features was not determined. Stirling domestic structures were generally larger than those of the Lohmann phase, and over half exhibited one or more large, internal storage pits, which were usually situated along structure walls (Milner et al. 1984:170, 173).

Based on FAI-270 project data, Stirling phase subsistence strategies were similar to those of the preceding Lohmann phase, but there may have been a shift to greater dependence on waterfowl and fish with a concomitant decline in mammal exploitation. The gathering of walnuts, hickory nuts, and wild beans, as well as the cultivation of maize, squash, maygrass, goosefoot, knotweed, and sunflower appear to have been important (Milner et al. 1984:173; Kelly1988; Lopinot 1988).

During the Stirling phase, the following occurred at Cahokia: 1) the main construction of Monks Mound was completed; 2) there was extensive mound construction in other areas of the site; 3) stockades were constructed around the central portion of the site; and 4) "chunky yards" and plazas were possibly established (Fowler and Hall 1972:7; also see Collins et al. 1986; Skele 1988; Reed et al. 1968; O'Brien 1969; Anderson 1969; Iseminger 1986; Benchley 1981; VanderLeest 1980).

The Moorehead phase dates to between ca. A.D. 1150–1250. At Cahokia, the Moorehead phase is equivalent to Griffin's (1949) Cahokia Climax and would represent the transition between the formerly defined Old Village and Trappist periods. A trend toward large, squarish domestic structures of wall trench construction suggests changing household organization during this phase. Cahokia's major public works had been completed and the community's infrastructure developed by the Moorehead phase (Fowler and Hall 1972:8, 9). By this time, the Cahokia site may have been in decline as a major polity.

The majority of Moorehead phase vessels are shell-tempered jars and bowls. Shell-tempered plates, water bottles, and juice presses occur, but are not common. Plates appear for the first time during the Moorehead phase, while seed jars and hooded water bottles disappear from ceramic assemblages during this phase (Milner et al. 1984:173).

The angled rim form dominates Moorehead ceramic assemblages from fourth-line Mississippian communities excavated in the American Bottom. Jar shoulders are usually curved or, occasionally, angular.

Most jars have plain surfaces, but black-filmed, and cordmarked surfaces are common (Milner et al. 1984:173). At the ICT–II, the Moorehead Ceramic Complex perpetuates a number of Stirling traits, but it also features such distinctive characteristics as Ramey-like gouging on everted rim dishes, and true Cahokia Cordmarked type jars (Holley 1989).

Moorehead phase chert tool assemblages from the American Bottom are similar to Stirling phase assemblages; however, the microdrill is virtually absent from Moorehead chert inventories. Projectile points include triangular, stemmed, corner-notched, and site-notched varieties. A triangular point style with a distinctly concave base appears for the first time in Moorehead contexts (Milner et al. 1984:175).

At excavated fourth-line Mississippian communities in the American Bottom:

> Most Moorehead phase structures were rectangular buildings with walls constructed of vertical posts placed in narrow trenches along the margins of their basins. . . . Like the structures of the earlier Stirling phase, many (50%) of these large Moorehead phase structures had sizable, internally located pits. . . . Moorehead phase features were located in isolated groups, designated as households, that were dispersed across bottomland ridges. . . . Each household consisted of one or a few structures, their internal features, and isolated pits or groups of pits located nearby [Milner et al. 1984:177].

At the ICT–II, Moorehead phase structures were square, or nearly square, and were of varying sizes. Larger structures appear to have been built during the latter portion of the phase. Large internal storage pits were not as common in the ICT–II Moorehead feature assemblage as they are reported to have been on other Moorehead phase sites in the American Bottom.

III. ICT-II CULTURAL FEATURES—ANALYTICAL APPROACH

INTRODUCTION

Archaeologists are every where devoting an increased effort to the location and excavation of settlement sites of all periods. In some cases, the location technology and the excavation methods employed are far in advance of those of the last century. However, in some respects the retrieval, analysis and interpretation of information from these settlement observations remain scarcely more developed today than the intuitive procedures employed by the best excavators of the nineteenth century [Clarke 1972:801].

The general goal of the ICT–II investigation was to obtain a diachronic view of residential patterns outside Cahokia's Central Ceremonial Precinct during the period ca. A.D. 950–1150. This is the period during which the process of "Mississippianization" occurred at Cahokia. Community and household organization, and social stratification were among the topics to be addressed by the investigation. Specific field and laboratory methods were geared toward acquiring, describing, and interpreting data relevant to these subjects (Woods 1985b).

A formal/functional analysis of ICT–II feature types and their spatial and temporal distribution has been conducted. This analysis was based on definable formal characteristics of features, their contents, and inferred associations with other features. The location and configuration of the tract made definition of complete community patterns for any period of occupation highly unlikely. However, a variety of data on the minimal unit of settlement, the household, and on household clusters were recovered. These data are presented below according to the cultural/ temporal phases represented at the ICT–II.

While the ceramic analysis (Holley 1989) has provided the basis for the relative occupational chronology, patterns of feature superpositioning, architectural variation, and material associations have also contributed to the chronological ordering of recovered materials. Holley has used ceramic criteria to distinguish seven temporal units to which features subsequently were assigned. These temporal units, from earliest to latest, are: Lohmann, Lohmann–Stirling, Early Stirling, Late Stirling, General Stirling, Moorehead, and Indeterminate Mississippian (Lohmann–Moorehead). Whenever possible, the temporal assignment of a feature was refined on the basis of its specific archaeological context, that is, its association with, or its superpositioning on or by features of known age based on ceramics. In this way, many features which could not be temporally placed on the basis of ceramic data alone could be assigned to a specific temporal unit with a high degree of confidence. It should be emphasized that chronological placement of features on the basis of archaeological contexts was undertaken conservatively and that no feature was assigned to a particular temporal unit without considerable analysis. Table 3.1 presents a listing of all ICT–II features, their formal/functional classifications, and their temporal assignments based on ceramic criteria and/or archaeological context.

Some of the formal/functional classes to which features were assigned are more hypothetical than others. Hearths and fire pits, for instance, have inferred functions which are easily deduced from empirical evidence. The explicit functions of many other features, however, including some structures, are not as clear-cut. There also are instances in which functionally distinct feature classes appear to be interrelated and therefore must be viewed as "activity sets." While data presented in this volume are largely descriptive, interpretations of the data are provided whenever possible.

The archaeological literature contains little basic descriptive data on the residential areas of the Cahokia site. As a step toward rectifying that situation, an effort has been made to present the ICT–II data as completely as possible. The reader will find much data presented in graphic and tabular form for easy reference. Discussion of the ICT–II data is organized in the following manner: First, the analytical methodology is outlined and formal/functional feature classes are defined. The formal/functional feature groups are then described by component, and a discussion of the spatial patterning evident within each component is presented. This discussion includes interpretations of possible relationships among the various formal/functional feature classes. The conclusion of this report comprises a comparative evolutionary assessment of feature morphology and patterning at the ICT–II.

METHODS

There are of course, any number of ways to present the results of archaeological investigations. One method is to transcribe the complete data obtained without reference to the interpretations or conclusions, and to follow this purely objective enumeration and description with an interpretive statement. This has the advantage of making available to the research student all or most of the raw data unencumbered by the judgements of the authors. Another method is to present the results in an arrangement determined by the authors, thus facilitating the expositions of conclusions. This latter procedure assumes that the author's familiarity with the specific material under discussion, as well as supplementary corroborative information, justifies the sorting of the evidence and its presentation according to its cultural associations. Both methods have their advantages and drawbacks, of which we have been fully cognizant. Although we have chosen to follow the more subjective manner of presentation, we do so not from any idea of judging the relative merits of the two methods, but because we have found it more convenient in dealing with the complex problems of the site [Lewis and Kneberg 1946:35].

Preliminary laboratory analysis included separating the features (n = 468) into three general categories: pits, structures, and other features. A variety of metric and formal data was generated for each pit feature and structure. 'Other' features were subjected to this standardized analysis when possible; when this was not feasible, individualized treatment was undertaken.

The following data were recorded for pit features: orifice size, orifice shape, profile depth, profile shape, and volume. Orifice size was determined by measuring the long axis in plan view. Each feature was assigned to one of three size groups based on this measurement: small (0–0.49 m), medium (0.50–0.99 m), or large (1.00+ m). Features were also assigned to one of the following orifice shape groups: oval, circular, rectangular, or irregular. Profile depth was determined by subtracting the minimum sea level elevation from the maximum sea level elevation on a given feature profile. Features were subsequently assigned to one of three profile depth groups: shallow (0–0.24 m), medium (0.25–0.49 m), or deep (0.50+ m). Profile shape groups included basins, irregular basins, bell shapes, straight out-slanting walls with flat bottoms, vertical walls with flat bottoms, straight in-slanting walls with flat bottoms, and conical shapes.

Combination of the above-described attributes permitted assignment of features to preliminary multi-dimensional categories. Of the possible 250+ such categories, pit features from the ICT–II were sorted among eighty-five. This sorting constituted a necessary but clearly intermediate level of analysis, which was further refined by consideration of feature volume.

Pit feature volumes were determined using standard mathematical formulae for calculating the volumes of geometric forms (Figure 3.1). These formulae were the same as those used by the University of Illinois researchers on the FAI–270 Archaeology Project (e.g. Fortier 1984; McElrath and Finney 1987). However, instead of cubic decimeters (the unit of volume presented in FAI–270 reports), feature volumes in this report are presented in cubic meters. We have made this alteration because we believe the use of cubic decimeters to be unnecessarily confusing. Those wishing to compare feature volumes in this report with those in the various FAI–270 reports can use the formula: cubic decimeters x 100 = one cubic meter. It must be noted that feature volumes as reported are actually *estimates*. However, every effort was made to ensure as much accuracy as possible given the constraints of applying formulae for standard forms to non-standard shapes.

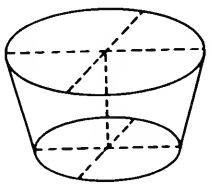
Subsequent to analysis based on metric and formal characteristics, variables related to cultural formation processes and associations were considered. Such variables included: 1) the presence/absence of stratigraphic zones within pits; 2) the presence/absence of in situ burning; 3) the spatial relationships of pits to structures (i.e., interior or exterior); 4) the association of pit features with other pits, structures, postmolds, etc.; 5) the superpositioning of pits on or by other features; and 6) other reflections of cultural processes as they related to features.

Formal and metric data recorded for structures included foundation shape, foundation type (i.e., wall trench or single post), number of foundation elements (i.e., wall trenches), length and width, internal floor area (in square meters), depth of basin (in meters), approximate volume (in cubic meters) of fill above the floor, floor elevation (amsl), top and bottom wall trench elevations, trench width, and presence/absence and

Feature Volume Formulas

FORMULA 1

Inslanting circular pit

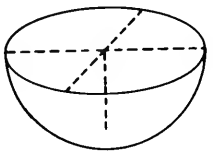


$$V = \frac{h}{2}(a_1 + a_2)$$

a_1 = area of base (πr^2)
a_2 = area of surface (πr^2)
h = height (depth)

FORMULA 2

Circular or eliptical basin pit

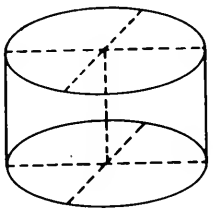


$$V = .16\,\pi h(3ab + h^2)$$

a = maximum surface radius
b = minimum surface radius
h = height (depth)

FORMULA 3

Cylindrical pit

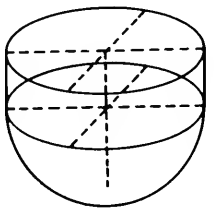


$$V = \pi r^2 h$$

r = surface radius
h = height (depth)

FORMULA 4

Compound pit



V = formula 2 + formula 3

Figure 3.1. Standard formulas used in determining ICT-II feature volumes (after Fortier 1984).

diameter of relict postmolds in trenches. Subsequently, formation processes, structure orientation, and associations were examined.

'Other' features included fire-related features, postmolds and post-pits, non-house structures, a butchering station or bone dump, miscellaneous fill features, and miscellaneous non-fill features. Feature classifications are defined in greater detail below.

As a methodological approach to explain past behavior, the identification of intrasite formation processes has received considerable attention in the archaeological literature during the past fifteen years (Schiffer 1972, 1976, 1983; Clarke 1973; Binford 1977, 1978, 1981; Rathje and Schiffer 1982; Dickens and Ward 1985; Siegel and Roe 1986; and others). However, it has been noted that "despite a respectable methodological antiquity, the logical explicitness of the recent literature, and its experiential obviousness, the identification of formation processes is not well established in prehistoric investigations. . ." (Reid 1985:12). One need not look beyond the recent literature on the American Bottom to get an idea of the sometimes casual attention paid formation processes (see Pauketat 1987a for more discussion).

In the development of the feature classification detailed below, considerable attention was paid to the types of fill (soil and debris) encountered within features. Recent studies have indicated ". . .that archaeological features and their contents should be examined from the perspective of formation processes, rather than just in terms of their original functions or just as undifferentiated garbage receptacles—i.e., as 'garbage pits'" (Dickens 1985:58). In this regard one must ask such questions as: 1) was the feature fill deposited naturally, incidentally or intentionally?; 2) does the fill reflect in situ prehistoric activity?; 3) was the material introduced as primary refuse, secondary refuse, or non-culturally? (see Schiffer 1976); 4) does the fill reflect the rate of deposition?; 5) is the form and/or the fill a more reliable indicator of a feature's original function?; 6) were features reused?

We have followed a fundamental assumption of Emerson and Jackson (1984:14) that "features are rapidly filled and, subsequent to their first season after abandonment, probably exist only as shallow depressions." We also assume that the ICT–II was more or less continually occupied from its initial settlement during the Lohmann phase through its terminal Moorehead occupation. We are, therefore, able to trace the evolution of a (small) portion of the Cahokia community through the most significant period of the site's efflorescence. When considering community development:

> . . . it should be remembered that prehistoric communities were no more frozen in arrangement than are today's communities. Within the community arrangements there were very likely constantly fluctuating patterns of house construction, repair, destruction, expansion, and movement in conjunction with pit excavation, use, abandonment, filling, and reexcavation. All of this occurs within the general framework of an accepted community plan [Emerson and Jackson 1984:15].

The definition of the community plan and its evolution at the ICT–II is the focus of this report.

The intensity of occupation at the ICT–II created a number of methodological problems specifically related to superpositioning of features. These problems are not unique to Cahokia; however, the complexity of feature patterning within restricted space is rarely equaled elsewhere in the Mississippian world (Figure 3.2). Mixing of materials is an inevitable result of such complex patterning. Problems of superpositioning and mixed assemblages are compounded by the inherent similarities of different Mississippian phase assemblages. While there is literally no way to avoid the mixing of materials, the succession of feature superpositioning *can* and *must* be recognized in the field. Accurate observation in this regard permits chronological interpretation to be based on diagnostic materials from the mixed assemblage *and* feature succession, consequently ensuring greater reliability of such interpretations.

Ethnographic analogy was a major methodological tool employed in the analysis and interpretation of the cultural features excavated at the ICT–II. One must be aware of the dangers inherent in relying too heavily on analogous interpretation, but analogy cannot be completely ignored in interpretation (see Orme 1981). Webster defines interpretation as: "explanation of what is not immediately plain or explicit . . . by pointing out or suggesting inner relationships or motives or by relating particulars to general principles. . ." (Gove 1971:1182). In this regard:

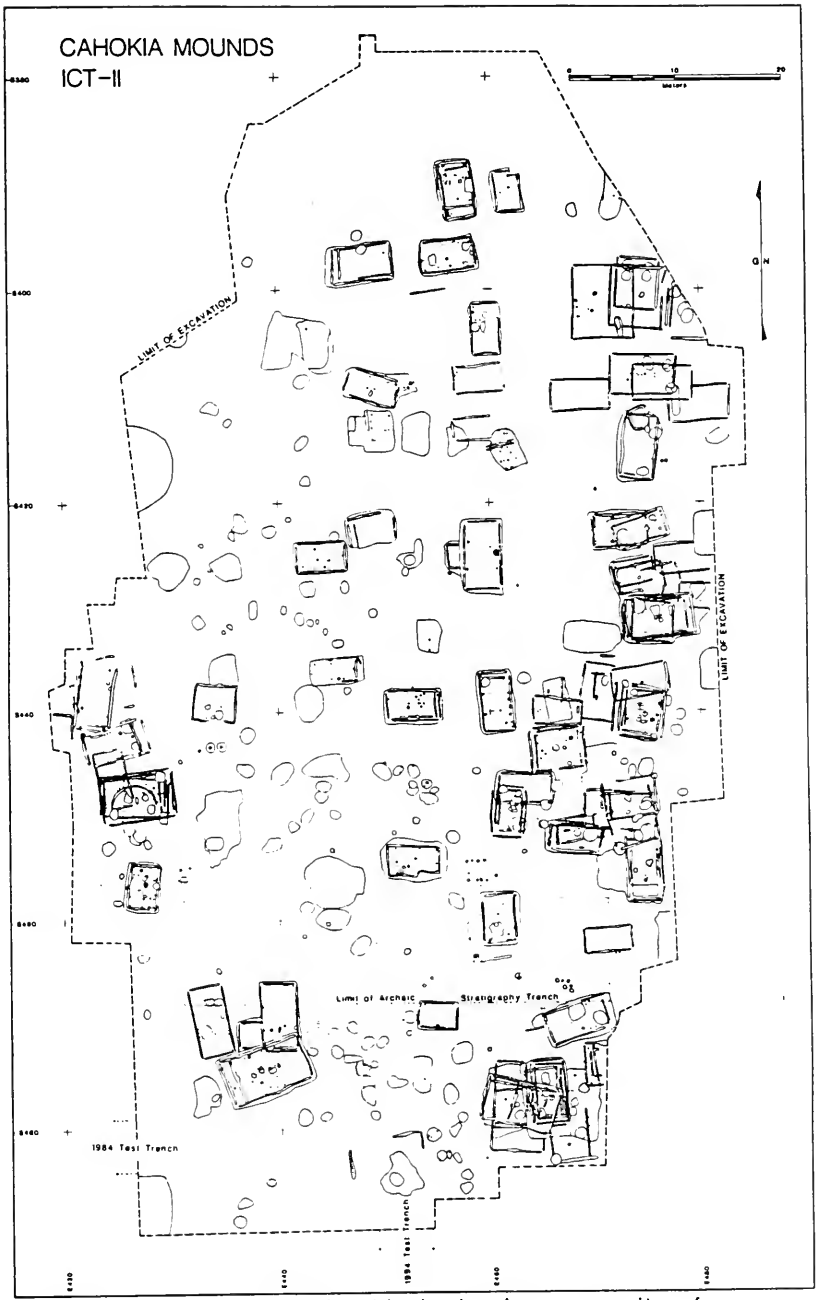


Figure 3.2. ICT-II excavation block showing composite of excavated features.

> Archaeologists are dependent for building models upon the knowledge currently available on the range of variability in form, structure, and functioning of cultural systems. Much of this information has, of course, been provided by ethnographic investigation. It is this background information which serves the archaeologist in offering explanatory propositions for some of the differences and similarities observed in the archaeological record, many of which may not necessarily reveal differences or similarities between distinct cultural systems. . . .the interpretation of the archaeological record by the citation of analogies between archaeologically observed phenomena and phenomena from a known behavioral context simply allows one to offer his *postulate* that the behavioral context was the same in both cases. . . .Archaeologists are certainly indebted to ethnographers for providing sources which can be used as inspirations for model building. The crucial point, however, is that our understanding of the past is not simply a matter of interpreting the archaeological record by analogy to living societies, as has been commonly asserted [Binford 1972b:60, emphasis in original].

For students of Mississippian societies, the primary sources of ethnographic analogy are the accounts of early historic travelers in the southeastern United States. However, we have not rejected the use of appropriate analogies derived from traditional societies located elsewhere in the world.

Our interpretations of the ICT–II archaeological record are based on intensive study of the feature data and archival sources. In interpreting the available evidence we have relied on formal/metric characteristics, associations and spatial patterning of features, examination of formation processes, and ethnographic analogy. These interpretations should be considered provisional rather than absolute conclusions. Nevertheless, we consider our interpretations to be the most plausible "explanations" of the data as we currently view them.

Table 3.1. ICT–II Cultural Feature Inventory

Fea #	Component	Class	Criteria*	Fea #	Component	Class	Criteria*
1	Lohmann	1.1	(/)	41	General Stirling	1.1	( )
2	Lohmann	3.2	(/)	42	General Stirling	1.1	( )
3	Lohmann	3.3	(/)	43	Early Stirling	1.1	(/)
4	Lohmann	1.3	(/)	44	Lohmann	1.2	/
5	Lohmann	3.2	( )	45	Lohmann–Stirling	4.1	( )
6	Lohmann	3.2	( )	46	Lohmann–Stirling	1.1	( )
7	Lohmann	1.1	( )	47	General Stirling	1.1	(/)
8	Lohmann	5.4	/	48	General Stirling	1.3	( )
9	Lohmann	3.2	( )	49	Lohmann–Stirling	1.1	( )
10	Lohmann–Stirling	1.1	/	50	Indeter. Mississ.	1.1	( )
11	Lohmann	6.2	( )	51	Early Stirling	4.1	( )
12	Early Stirling	5.2	/	52	Early Stirling	1.2	(/)
13	Late Stirling	3.3	/	53	Early Stirling	1.2	(/)
14	Early Stirling	4.1	( )	54	General Stirling	1.1	( )
15	Lohmann	3.2	/	55	General Stirling	1.1	( )
16	Early Stirling	1.2	/	56	Lohmann	7.4	/
17	Lohmann	3.5	/	57	Lohmann	1.1	/
18	Late Stirling	3.1	/	58	Lohmann	1.1	( )
19	General Stirling	1.1	( )	59	Lohmann	7.4	/
20	General Stirling	6.2	( )	60	General Stirling	1.1	( )
21	Indeter. Mississ.	4.1	( )	61	Lohmann	1.1	/
22	General Stirling	1.3	( )	62	Lohmann	1.1	/
23	General Stirling	1.1	( )	63	Lohmann	1.1	( )
24	Lohmann	3.2	/	64	Lohmann	1.1	/
25	Lohmann	1.1	/	65	Lohmann	1.1	(/)
26	Lohmann	1.3	/	66	Lohmann–Stirling	1.1	( )
27	Lohmann–Stirling	1.3	( )	67	Lohmann–Stirling	1.1	(/)
28	Lohmann	1.1	/	68	Lohmann–Stirling	7.4	(/)
29	Lohmann–Stirling	1.1	( )	69	Indeter. Mississ.	1.1	/
30	Early Stirling	6.1	/	70	Lohmann	7.4	(/)
31	General Stirling	1.1	( )	71	General Stirling	7.4	( )
32	General Stirling	1.1	( )	72	General Stirling	1.1	( )
33	General Stirling	6.3	( )	73	Lohmann	1.1	( )
34	General Stirling	4.1	( )	74	Lohmann	7.4	/
35	General Stirling	1.1	( )	75	General Stirling	4.1	( )
36	Early Stirling	1.1	(/)	76	General Stirling	4.1	( )
37	Early Stirling	1.1	(/)	77	General Stirling	4.1	(/)
38	General Stirling	1.1	( )	78	General Stirling	1.1	(/)
39	General Stirling	1.1	/	79	Lohmann	2.3	(/)
40	Lohmann	1.1	(/)	80	Lohmann	2.3	( )

* Component association based on:
/ Ceramic Criteria
( ) Context Criteria
(/) Ceramic Criteria refined by Context Criteria

Table 3.1, continued

Fea #	Component	Class	Criteria*	Fea #	Component	Class	Criteria*
81	Lohmann	3.3	/	131	Early Stirling	5.4	(/)
82	Lohmann	3.4	(/)	132	Lohmann–Stirling	4.1	( )
83	Lohmann	7.4	/	133	Lohmann	5.1	/
84	General Stirling	1.1	( )	134	General Stirling	1.1	(/)
85	General Stirling	1.1	(/)	135	General Stirling	1.1	(/)
86	General Stirling	1.1	( )	136	General Stirling	3.1	( )
87	General Stirling	1.1	(/)	137	General Stirling	1.1	/
88	General Stirling	1.1	( )	138	General Stirling	3.4	( )
89	General Stirling	7.4	/	139	Moorehead	3.1	/
90	Early Stirling	1.1	( )	140	Moorehead	2.3	( )
91	Lohmann	1.1	( )	141	General Stirling	6.3	( )
92	Late Stirling	5.1	/	142	General Stirling	3.4	(/)
93	General Stirling	1.1	( )	143	Moorehead	5.3	/
94	Early Stirling	2.2	(/)	144	Moorehead	6.3	/
95	General Stirling	1.3	( )	145	Lohmann	4.1	/
96	Early Stirling	2.3	( )	146	Lohmann–Stirling	1.1	(/)
97	Early Stirling	5.2	/	147	Moorehead	2.3	/
98	General Stirling	1.1	( )	148	Lohmann–Stirling	1.1	( )
99	Early Stirling	5.1	( )	149	Lohmann–Stirling	1.1	( )
100	General Stirling	1.1	( )	150	General Stirling	3.4	( )
101	General Stirling	1.1	( )	151	Lohmann–Stirling	1.1	( )
102	Late Stirling	1.1	( )	152	Late Stirling	2.3	(/)
103	Lohmann	6.1	( )	153	General Stirling	3.4	( )
104	General Stirling	1.1	( )	154	Early Stirling	5.1	(/)
105	Late Stirling	2.1	/	155	Early Stirling	5.2	( )
106	General Stirling	1.1	( )	156	Lohmann–Stirling	5.2	( )
107	Late Stirling	2.1	/	157	Early Stirling	1.1	( )
108	Early Stirling	2.1	/	158	Moorehead	2.1	(/)
109	Lohmann	3.1	(/)	159	Lohmann	7.1	/
110	Late Stirling	3.1	( )	160	Late Stirling	2.2	/
111	Late Stirling	4.1	( )	161	Lohmann	7.2	/
112	Late Stirling	2.2	/	162	Early Stirling	7.2	/
113	Late Stirling	1.1	(/)	163	Moorehead	1.1	/
114	Late Stirling	2.1	(/)	164	Moorehead	3.2	(/)
115	Early Stirling	2.1	/	165	Moorehead	1.1	( )
116	Early Stirling	4.2	(/)	166	Early Stirling	2.3	( )
117	Late Stirling	3.1	( )	167	Moorehead	2.1	/
118	Early Stirling	3.1	( )	168	Late Stirling	5.1	( )
119	Early Stirling	3.1	( )	169	Early Stirling	1.1	(/)
120	Early Stirling	2.3	( )	170	Early Stirling	2.1	(/)
121	Lohmann	1.1	/	171	Early Stirling	1.1	( )
122	General Stirling	1.1	( )	172	General Stirling	3.4	( )
123	General Stirling	3.1	( )	173	General Stirling	3.4	( )
124	Late Stirling	2.1	/	174	Moorehead	3.1	/
125	Late Stirling	2.2	(/)	175	Moorehead	3.1	( )
126	Indeter. Mississ.	1.1	( )	176	General Stirling	7.3	(/)
127	Late Stirling	2.3	( )	177	Late Stirling	5.1	/
128	Lohmann	5.1	/	178	Late Stirling	5.1	/
129	Moorehead	1.2	/	179	Early Stirling	5.3	( )
130	Moorehead	1.1	( )	180	Early Stirling	2.3	( )

Table 3.1, continued

Fea #	Component	Class	Criteria*	Fea #	Component	Class	Criteria*
181	Early Stirling	2.3	/	231	Late Stirling	4.2	()
182	Early Stirling	2.3	(/)	232	Moorehead	2.1	/
183	General Stirling	3.4	()	233	Early Stirling	5.1	/
184	Moorehead	2.1	/	234	Late Stirling	3.1	(/)
185	Lohmann	7.4	/	235	Lohmann–Stirling	1.1	/
186	Early Stirling	5.2	/	236	Early Stirling	4.2	()
187	Lohmann	7.4	/	237	Lohmann	1.2	/
188	Early Stirling	5.1	/	238	Early Stirling	4.1	()
189	Lohmann	5.1	()	239	Moorehead	6.1	/
190	Lohmann	6.1	/	240	Lohmann–Stirling	1.1	()
191	General Stirling	4.1	()	241	General Stirling	1.1	/
192	Lohmann	5.1	/	242	Late Stirling	7.4	/
193	Lohmann–Stirling	1.1	()	243	Indeter. Mississ.	1.1	()
194	Lohmann–Stirling	3.1	()	244	Early Stirling	6.3	/
195	Lohmann–Stirling	1.1	()	245	Early Stirling	4.1	()
196	Lohmann–Stirling	1.1	(/)	246	Lohmann–Stirling	1.1	(/)
197	Lohmann	6.4	()	247	Lohmann–Stirling	1.1	()
198	Moorehead	2.1	/	248	Lohmann	1.1	/
199	Late Stirling	5.1	/	249	Lohmann–Stirling	1.1	(/)
200	Moorehead	2.1	/	250	Moorehead	5.3	/
201	Indeter. Mississ.	1.1	/	251	Early Stirling	7.3	/
202	Late Stirling	6.1	(/)	252	Early Stirling	4.2	()
203	Late Stirling	2.2	(/)	253	Lohmann	3.2	/
204	Indeter. Mississ.	4.1	()	254	Early Stirling	6.3	()
205	Lohmann	4.2	()	255	General Stirling	1.1	()
206	Lohmann	1.3	()	256	Moorehead	2.2	/
207	Early Stirling	5.3	/	257	Indeter. Mississ.	1.1	()
208	Late Stirling	3.2	/	258	Moorehead	3.1	()
209	Lohm. & E. Stirl.	3.5	/	259	Early Stirling	1.2	/
210	Lohmann–Stirling	1.1	()	260	Moorehead	2.1	/
211	Lohmann–Stirling	3.2	/	261	Moorehead	2.1	/
212	Early Stirling	5.1	()	262	Lohmann	2.1	/
213	Late Stirling	5.1	/	263	Early Stirling	2.2	/
214	General Stirling	1.1	/	264	Early Stirling	2.2	/
215	Early Stirling	5.1	(/)	265	Lohmann	5.1	/
216	Lohmann	1.1	()	266	Lohmann	1.1	/
217	Lohmann–Stirling	1.1	(/)	267	Late Stirling	2.2	(/)
218	Late Stirling	2.3	(/)	268	Moorehead	2.3	/
219	Late Stirling	4.1	()	269	Early Stirling	7.3	(/)
220	Lohmann–Stirling	1.1	/	270	Moorehead	1.2	/
221	General Stirling	2.1	/	271	Early Stirling	2.2	(/)
222	Lohmann	1.1	/	272	Late Stirling	2.1	/
223	Lohmann–Stirling	1.1	()	273	Lohmann–Stirling	4.2	()
224	Early Stirling	6.3	()	274	Lohmann	3.5	/
225	Lohmann	7.4	/	275	Lohmann	6.1	/
226	Early Stirling	2.1	/	276	Lohmann	2.1	/
227	Early Stirling	6.3	()	277	Late Stirling	3.2	(/)
228	Early Stirling	6.1	/	278	Lohmann	7.4	/
229	Lohmann	1.1	/	279	Lohmann	2.1	/
230	Moorehead	2.1	/	280	Late Stirling	2.3	/

Table 3.1, continued

Fea #	Component	Class	Criteria*	Fea #	Component	Class	Criteria*
281	General Stirling	1.1	(/)	331	Late Stirling	4.1	( )
282	Lohmann	5.1	/	332	Moorehead	5.4	/
283	Lohmann	5.1	/	333	Lohmann	4.2	(/)
284	Early Stirling	2.1	/	334	Late Stirling	2.2	/
285	Early Stirling	5.1	/	335	Lohmann–Stirling	1.1	( )
286	Early Stirling	5.2	/	336	Early Stirling	5.2	/
287	Lohmann	5.4	/	337	Lohmann	6.2	( )
288	Early Stirling	2.3	( )	338	Lohmann	5.1	/
289	Lohmann	4.1	( )	339	Late Stirling	2.3	/
290	Lohmann	4.1	( )	340	Early Stirling	2.1	/
291	Early Stirling	2.2	(/)	341	Lohmann	6.2	(/)
292	Early Stirling	2.3	(/)	342	Lohmann	5.1	/
293	Early Stirling	2.3	( )	343	Early Stirling	2.1	/
294	Early Stirling	3.1	( )	344	Lohmann	5.2	/
295	Lohmann	6.3	(/)	345	Lohmann	2.1	/
296	Lohmann	7.4	(/)	346	Lohmann	3.5	/
297	Lohmann	6.3	( )	347	Lohmann–Stirling	6.5	( )
298	Lohmann	2.2	(/)	348	Early Stirling	5.1	/
299	Lohmann–Stirling	1.1	(/)	349	Early Stirling	5.1	( )
300	Lohmann	2.3	( )	350	Lohmann	2.3	(/)
301	Lohmann	7.3	( )	351	Lohmann	2.3	( )
302	General Stirling	1.2	( )	352	Moorehead	2.3	( )
303	Lohmann	4.1	(/)	353	General Stirling	4.2	(/)
304	Early Stirling	5.2	/	354	Late Stirling	2.2	(/)
305	Lohmann	5.2	/	355	General Stirling	7.2	(/)
306	Early Stirling	5.2	(/)	356	Early Stirling	2.3	( )
307	Lohmann	6.3	( )	357	Late Stirling	3.1	( )
308	Early Stirling	1.1	(/)	358	Lohmann	6.4	(/)
309	Early Stirling	5.1	/	359	Lohmann	2.1	( )
310	Lohmann	6.1	( )	360	Early Stirling	2.3	( )
311	General Stirling	1.1	/	361	Early Stirling	5.1	(/)
312	Lohmann–Stirling	1.1	(/)	362	General Stirling	2.3	( )
313	Late Stirling	1.2	/	363	Moorehead	4.2	( )
314	Early Stirling	6.3	(/)	364	General Stirling	1.1	( )
315	General Stirling	1.1	(/)	365	General Stirling	6.1	( )
316	Early Stirling	1.1	( )	366	Early Stirling	4.2	( )
317	Indeter. Mississ.	3.2	/	367	Moorehead	5.3	/
318	Moorehead	2.1	/	368	Moorehead	5.3	/
319	Late Stirling	1.1	/	369	Moorehead	5.3	( )
320	Early Stirling	3.5	/	370	Moorehead	2.2	/
321	Lohmann	5.1	/	371	Moorehead	2.2	/
322	Lohmann	7.3	/	372	Moorehead	1.1	/
323	Early Stirling	2.1	/	373	Moorehead	2.2	/
324	Late Stirling	5.1	/	374	Moorehead	3.2	/
325	Lohmann	2.3	( )	375	Early Stirling	6.4	( )
326	Lohmann–Stirling	4.1	( )	376	Moorehead	4.2	( )
327	Early Stirling	2.1	( )	377	Moorehead	4.2	( )
328	Lohmann–Stirling	1.1	( )	378	Moorehead	4.2	( )
329	Moorehead	2.1	/	379	Moorehead	3.2	/
330	Late Stirling	4.1	( )	380	Early Stirling	5.1	( )

Table 3.1, continued

Fea #	Component	Class	Criteria*	Fea #	Component	Class	Criteria*
381	Late Stirling	5.1	( )	431	General Stirling	6.4	( )
382	Early Stirling	2.3	(/)	432	Late Stirling	6.3	( )
383	Moorehead	4.2	( )	433	General Stirling	6.4	( )
384	Lohmann–Stirling	7.2	(/)	434	Early Stirling	6.4	( )
385	Early Stirling	2.2	( )	435	Early Stirling	6.4	( )
386	Moorehead	1.1	/	436	Lohmann–Stirling	5.2	( )
387	Early Stirling	5.4	/	437	Early Stirling	5.1	( )
388	Early Stirling	6.3	( )	438	Early Stirling	5.1	( )
389	Lohmann	6.4	(/)	439	Late Stirling	7.3	( )
390	Late Stirling	5.1	/	440	Moorehead	5.3	( )
391	Late Stirling	5.1	/	441	Moorehead	6.3	( )
392	Late Stirling	7.2	(/)	442	Moorehead	5.3	( )
393	Early Stirling	5.2	(/)	443	Late Stirling	5.1	( )
394	Late Stirling	2.2	/	444	Lohmann	7.2	( )
395	Late Stirling	2.3	(/)	445	Moorehead	6.4	( )
396	Early Stirling	2.3	( )	446	Moorehead	6.4	( )
397	Moorehead	2.3	(/)	447	Moorehead	6.4	( )
398	Moorehead	3.2	( )	448	Moorehead	6.4	( )
399	Late Stirling	7.3	( )	449	General Stirling	6.4	( )
400	Lohmann	4.1	(/)	450	General Stirling	6.4	( )
401	Moorehead	2.1	/	451	Late Stirling	6.3	( )
402	Moorehead	1.1	( )	452	General Stirling	7.4	( )
403	Moorehead	2.1	/	453	Early Stirling	6.5	( )
404	Lohmann	4.1	(/)	454	Late Stirling	7.4	/
405	Lohmann	7.3	( )	455	Early Stirling	5.1	/
406	Moorehead	6.4	( )	456	Lohmann	1.1	/
407	Moorehead	2.1	/	457	Lohmann	1.1	/
408	Moorehead	5.3	/	458	Early Stirling	6.4	( )
409	Early Stirling	5.1	/	459	Late Stirling	6.3	( )
410	Moorehead	2.3	/	460	Lohmann	7.4	/
411	Moorehead	2.3	( )	461	Late Stirling	2.3	( )
412	Moorehead	2.3	( )	462	Late Stirling	2.3	( )
413	Moorehead	4.2	( )	463	Early Stirling	6.4	( )
414	Moorehead	2.3	/	464	Early Stirling	2.3	( )
415	Moorehead	2.3	/	465	Lohmann	7.3	/
416	Moorehead	2.3	(/)	466	Early Stirling	6.4	( )
417	Moorehead	2.3	( )				
418	Late Stirling	6.1	/				
419	Moorehead	4.1	( )	2001	Late Archaic	1.1	( )
420	Early Stirling	3.1	( )	2002	Late Archaic	1.1	( )
421	Moorehead	3.1	( )				
422	Late Stirling	2.2	(/)				
423	Early Stirling	2.4	/				
424	Moorehead	6.3	( )				
425	Early Stirling	5.1	( )				
426	Early Stirling	5.1	( )				
427	General Stirling	5.1	( )				
428	General Stirling	5.1	( )				
429	General Stirling	5.1	( )				
430	Late Stirling	5.1	( )				

IV. FEATURE CLASSIFICATION

> *Any archaeologist working a site of Mississippian cultural affinity--if he has done any reading at all of the period of Spanish and French domination of the Southeast--will tend to "read into" his site many of the features seen and described by early narrators. This can be dangerous unless self-control is brought into play. But there is so much that is obvious on a Middle Mississippi site that the hazard of digging on the basis of preconception of what should be found is somewhat diminished. The general pattern of such a site is evident to little more than a casual observer. . . .Thus, an archaeologist can proceed with some degree of assurance that he is dealing with a Middle Mississippi site and the imperishable remnants of a group of Indians identical to those of the Southeast who were cursed by the arrival of Europeans in 1539–42* [Black 1967:492].

Based on the methodological approach outlined in the previous section, the 468 features excavated at the ICT–II have been sorted into seven major classes. The seven are: pit features (Feature Classes 1 and 2), fire-related features (Feature Class 3), postmolds and post-pits (Feature Class 4), wall trench structures (Feature Class 5), other structures (Feature Class 6), and other features (Feature Class 7). Sub-classes have been defined within each major division.

Feature Class 1—Pit Features of Indeterminate Function (n=126)

Class 1 pit features may have small, medium, or large orifice diameters but are characterized by shallow or medium depth profiles which are typically basin shaped or irregularly shaped basins. Orifice diameters do not exceed 2 m and volumes do not exceed 0.2 m^3 ($x = 0.04$; $s = 0.04$). Class 1 pit features occur outside of contemporaneous structures and do not exhibit signs of in situ burning.

Sub-class 1.1 (n=109)

Sub-class 1.1 pit features (Figure 4.1; Table 4.1) contain homogeneous single zone fills. Volumes range from 0.001 to 0.19 m^3 ($x = 0.04$; $s = 0.04$). The fill was introduced naturally and/or incidentally. Natural and incidental filling occurs when pits are allowed to stand open after functional abandonment. Filling is a relatively rapid accretional process not conducive to zonation. This type of fill generally exhibits a low debris density. Debris is ordinarily introduced incidentally, derived from surrounding midden. Concentrations of primary or secondary refuse do not occur in Sub-class 1.1 pits.

When present, sherds are normally fragmentary and very eroded. For this reason, component identification based on ceramic criteria was not possible for many Sub-class 1.1 features. Whenever possible, such identification was based on associational and spatial relationships to features of known age.

Definitive functional interpretations of Sub-class 1.1 pits are impossible. Porter (1974:115) identified similar pits at the Mitchell site as thoroughly cleaned-out fire basins. At some southeastern sites similar features have been viewed as borrow pits for clay used in house construction (Dickens 1985; Wilson 1985). The ICT–II features could have functioned in these ways, and may have served many other purposes as well, for example in food processing or as cache pits. The reader's attention is directed to the distinction between Sub-class 1.1 features and Sub-class 2.3 features (see below). The latter normally occurred inside structures; however, features located outside structures and containing cached materials were also included in the category.

Many Sub-class 1.1 pits at the ICT–II were extremely shallow, possibly basal remnants, or "ghosts" (leach zones), of features destroyed by plowing. Prentice and Mehrer (1981:34) observed that only 50% of the nonstructural features at the *unplowed* Lab Woofie site were sufficiently deep to have survived destruction in a 0.3 meter-deep plowzone. The presence of very shallow features and feature "ghosts" is indicative of the large number of pits that must have existed at the ICT–II prior to historic times. However, relatively little information is forthcoming from such features.

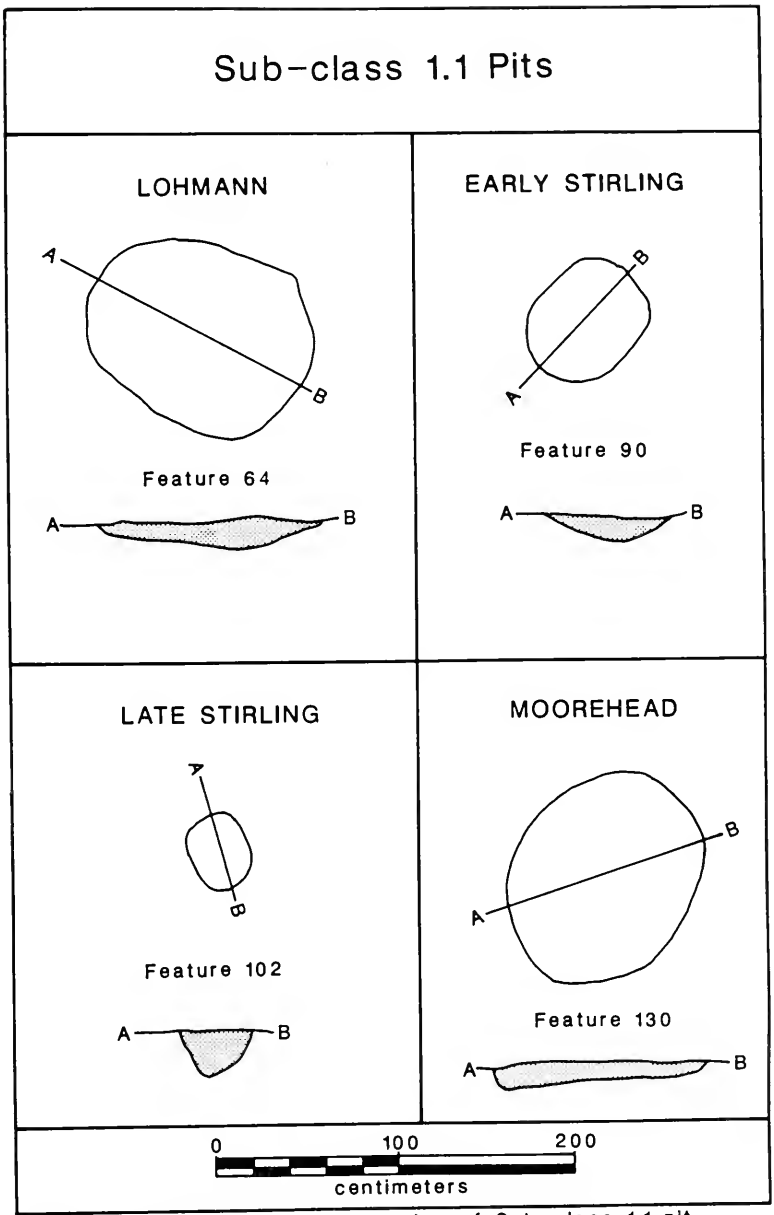


Figure 4.1. Representative examples of Sub-class 1.1 pit features.

Sub-class 1.2 (n=10)

Sub-class 1.2 pits (Figure 4.2; Table 4.2) contain heterogeneous multiple zoned fills and/or concentrations of secondary refuse (see Schiffer 1976:30). Volumes range from 0.04 to 0.2 m^3 (x = 0.12; s = 0.04), and are thus substantially greater than Sub-class 1.1 pit volumes.

These generally larger features may have been attractive receptacles for "casual" refuse disposal. In an ethnographic study of refuse disposal in the Maya Highlands, Hayden and Cannon (1983:144) found:

> that pits were most often used for refuse disposal where pits constructed for other purposes happened to be in disuse, needed filling, and provided a convenient receptacle for refuse. Economy of effort, both in terms of pit filling and trash disposal, would make the discard of inorganic objects in abandoned pits near structures a logical and efficient behavior.

Emerson and Jackson (1984), among others, have noted the advantage of rapidly filling abandoned pits to remove "traffic hazards" from a living area. The larger Sub-class 1.2 features would have presented more formidable such hazards than the Sub-class 1.1 pits, and so would have been more likely to have undergone intentional filling. This conclusion is supported by our finding that Sub-class 1.2 features contain intentionally deposited, sometimes sequentially zoned, fills.

As was the case with Sub-class 1.1 pits, definitive functional interpretations of Sub-class 1.2 features are not possible.

Sub-class 1.3 (n=7)

Sub-class 1.3 features (Figure 4.3; Table 4.3) are shallow basins with associated postmolds. The postmolds either extend from the base of the pits or are immediately adjacent to them. Sub-class 1.3 basins are the smallest Class 1 features, with volumes ranging from 0.01 to 0.07 m^3 (x = 0.03; s = 0.01). These features are similar to Sub-class 3.3 features (see below), but differ from the latter in that they display no evidence of in situ burning. The functions of Sub-class 1.3 features are not known. Commodities or utensils may have been suspended from the posts associated with these features. Perhaps these features functioned in cooking where some indirect heating technique such as stone boiling or baking was involved (see Hough 1926:32).

Feature Class 2—Cache/Storage Facilities (n=96)

Class 2 features are interpreted as "cache/storage" facilities. These features vary widely in form and size and have been divided into four sub-classes. Typical profile shapes do not include basin forms except in Sub-class 2.3 (see below). Several Class 2 pits display evidence of having been lined with such diverse materials as rocks, mats, or grass. All are believed to have functioned as temporary or permanent repositories of purposely curated material. A number of Class 2 features contained artifact caches which were not recovered by the site's inhabitants. More often, Class 2 features were refuse-filled.

Sub-class 2.1 (n=34)

Sub-class 2.1 (Figure 4.4; Table 4.4) consists of exterior cache/storage pits. These features are sometimes lined and typically are filled with secondary refuse deposited in sequential, stratified zones. Forty-seven percent of Sub-class 2.1 features exhibit such zoning. In some cases, one or more of these zones is natural fill which apparently washed or slumped into the open or partially filled pit during heavy rain. Some features in this sub-class were intentionally filled in a single episode with soil derived from midden.

Sub-class 2.1 pits vary greatly in size. Volumes range from 0.17 to 5.6 m^3, with the mean falling at 0.61 m^3 (s = 0.94). A mean of 0.46 m^3 (s = 0.25) is derived by eliminating the largest and smallest features from the population and is probably more representative of the sub-class. All but four Sub-class 2.1 features had volumes greater than 0.2 m^3. The four smaller features were included in the sub-class based

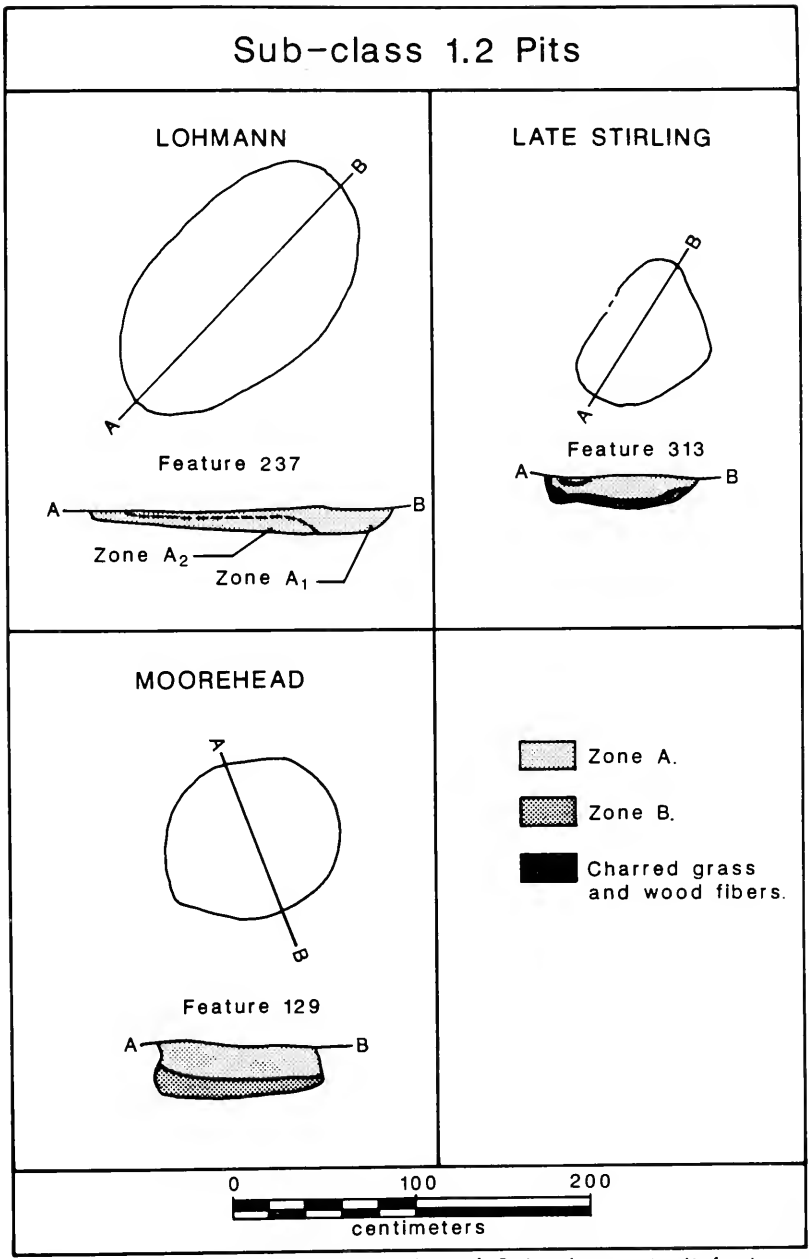


Figure 4.2. Representative examples of Sub-class 1.2 pit features.

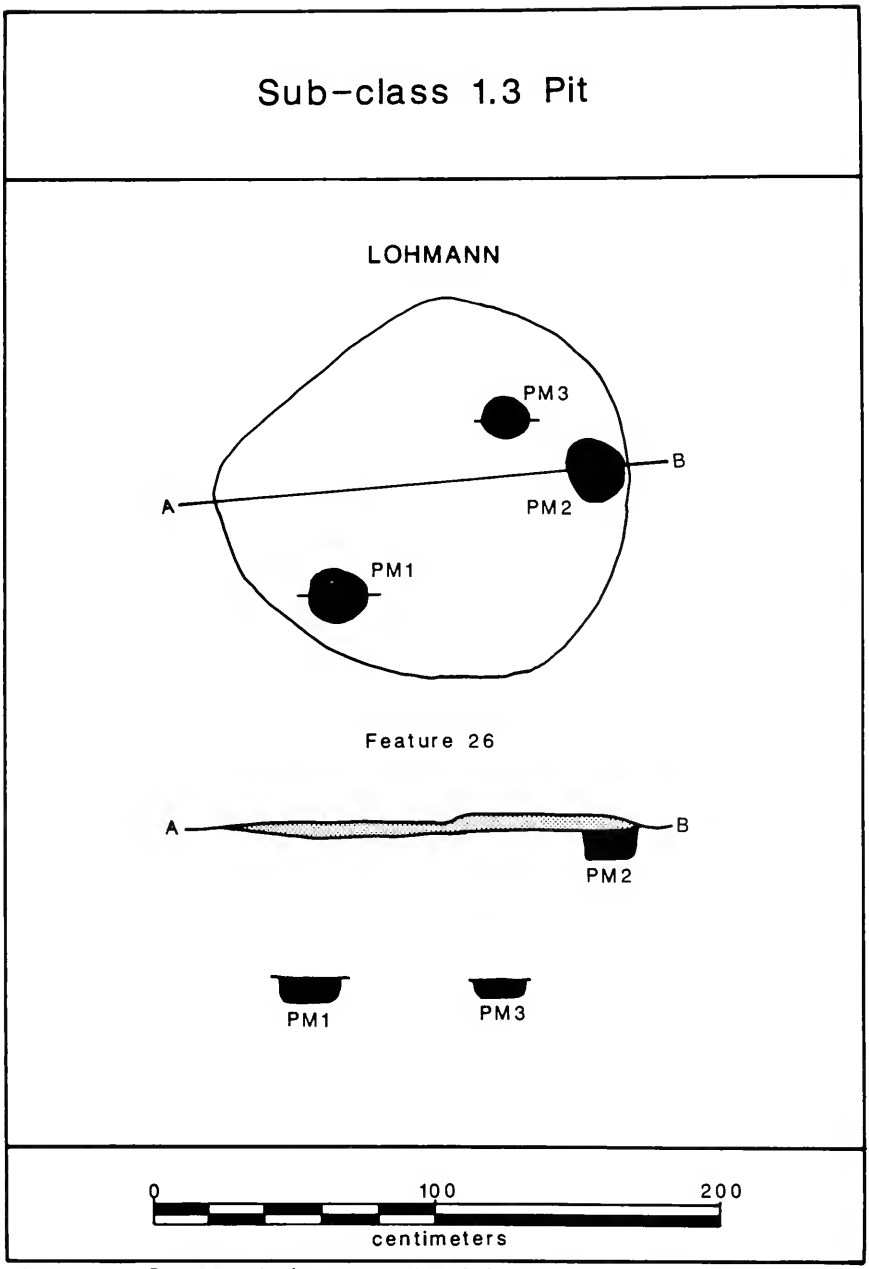


Figure 4.3. Representative example of Sub-class 1.3 pit features.

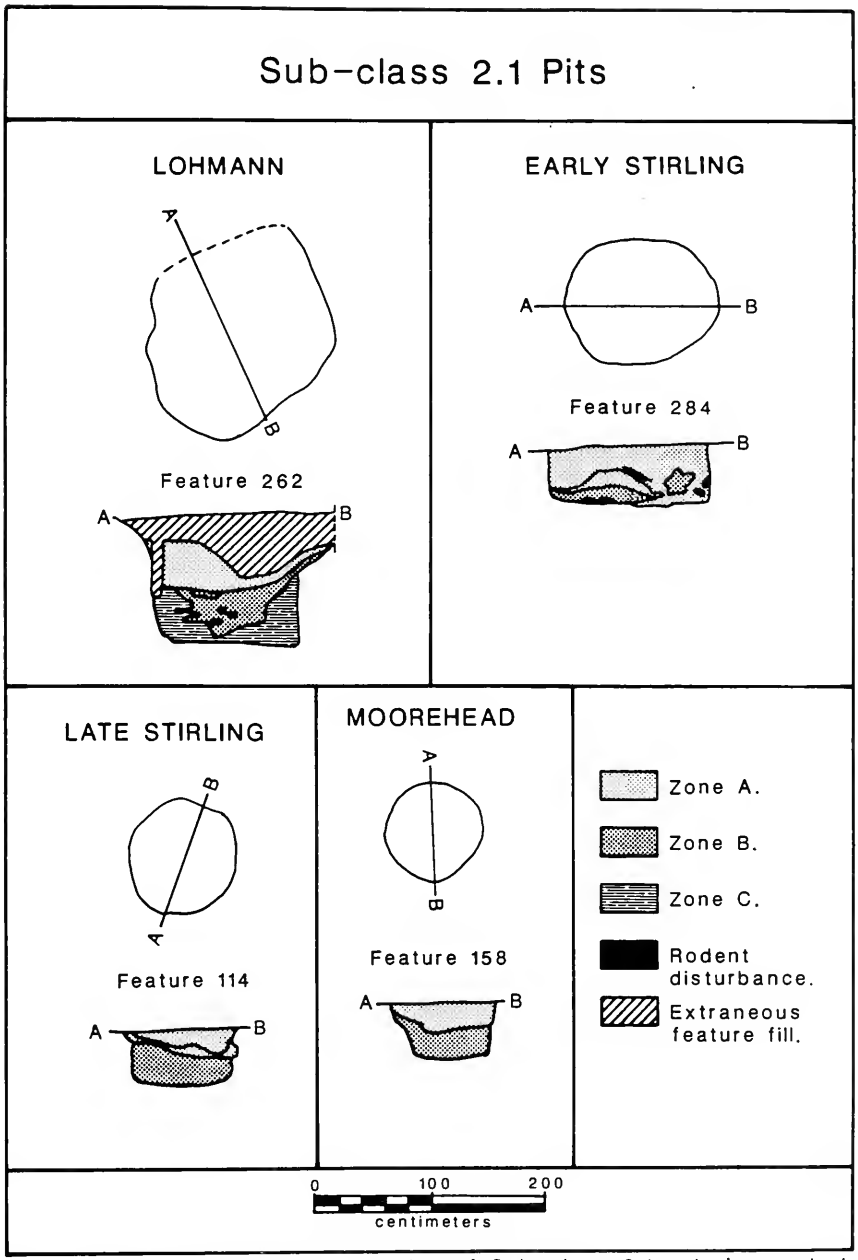


Figure 4.4. Representative examples of Sub-class 2.1 exterior cache/ storage pits.

on one or more of the following criteria: recovery of cached material during excavation, definition of a cylindrical or modified cylindrical profile, or evidence of pit lining.

It is assumed that exterior cache/storage pits were used for the storage of personal effects (such as tools) and commodities (such as foodstuffs). Based on observation and ethnographic analogy, the smaller cache pits probably were used for shorter periods of time and were most likely excavated as needed. The larger storage facilities may have been reused over a period of years and appear to have been excavated with some care and with some ideal form in mind.

No intact food caches were encountered at the ICT–II. Consequently, it is difficult to determine what particular commodities were stored in the large pits. However, underground storage of grain is a phenomenon common to many traditional cultures. For example, Hall et al. (1956:3) reported that small, family-size pits in Somalia are "about 6 ft deep and 5–6 ft wide and hold about 2 tons of maize. . . . Grain is reputed to have been stored in such pits for 3 years although the normal storage period is 9–12 months." Likewise, Bornu farmers in northern Nigeria:

> store corn in circular pits for several years. The pits are 6–16 feet in diameter and 4–10 feet deep (depending on the quantity of grain available for storage) and are situated on high ground where the water table is low. The pit is lined with a single layer of woven grass "zanna" matting allowing a space of about 6 inches between the mat and the wall of the pit. Millet chaff is put on the bottom of the pit to a depth of 6 inches and is packed into the space between the earth wall and the matting. Corn is filled into the pit to a depth of 1 foot above the ground level. A 6 inch layer of chaff is then spread over the top and covered with about a foot layer of earth which is finished to give a conical shape. According to the local Department of Agriculture, corn stored by the above named method should keep well without deterioration in quality for 3 years. Some native farmers store their grain for even longer periods, viz., up to 7 years. These farmers maintain . . . there are no insects, provided the pit is not opened frequently. They say that once the pit is opened it is advisable to empty all contents so as to obviate the danger of pest infestation [Hall et al. 1956:4, 5].

These descriptions are consistent with ethnographic accounts from the Plains and elsewhere in North America. Henry (1809, quoted in Will and Hyde 1964:136, 137) describes such features among the Mandan:

> These holes are about 8 feet deep; the mouth is just wide enough for a person to descend, but the inside is hollowed out any size, and then the bottom and sides are well lined with dry straw. Such caches contain from 20 to 30 bushel of corn and beans, which are thrown in loose and covered with straw and earth. The ground is of such a dry sandy nature, that grain stored in this way will keep for several years without injury.

Strachey (1849, as quoted by Swanton 1946:379) describes pit storage among the Powhatan of Virginia:

> Their corne and (indeed) their copper, hatchetts, howses [hoes], beades, perle, and most things with them of value, according to their owne estymacion, they hide, one from the knowledge of another, in the growned. . .and so keepe them all the yeare, or untill they have use for them.

By contrast, in the southeast, corn was more commonly stored in above-ground granaries "by most, if not all, of the tribes in the section. . . these granaries or corncribs, (are) called by the Spaniards from the Haitian Arawak word 'barbacoas'" (Swanton 1946:373). Dickens (1985:41) suggests "it is probable that in the Southeast. . .pits were used mostly for the storage of hard seeds and nuts, as the climates and moist soils would have encouraged above ground (crib) storage of maize and other 'soft' vegetables."

It seems likely that the large Sub-class 2.1 pits at the ICT–II were used for storage of surplus commodities. Inferring food surpluses or shortages from the presence of storage facilities is problematic, but it is an issue which can be addressed. Analysis of archaeobotanical remains from Sub-class 2.1 features

may shed light on this issue and should also provide information concerning the seasal abandonment of the features. Referring to the latter topic, Dickens (1985:43) notes:

> The most likely time for storage pits to have been abandoned, and thus to have become available for garbage disposal, would have been at the time they were determined unsuitable for reuse, that is, when they were found to have become contaminated (e.g., waterfilled, soured, or vermin infested). With pits used for storing nuts, inspection for reuse probably would have occurred in the fall to early winter (September–November), when the year's nut crop was ready for collection. One could hypothesize, therefore that storage pits would have been abandoned and filled with garbage in the fall of the year. Such an interpretation certainly would not exclude the possibility of these pits being filled occasionally at other seasons.

Lopinot (1988) has considered seasonality of pit abandonment and filling in connection with his analysis of ICT–II floral remains.

Rapid filling of these large functionally exhausted pits would have had certain advantages. As was noted in the case of the larger Sub-class 1.2 pits, such large holes represented obstacles to foot traffic. Describing a Hidatsa town, Will and Hyde (1964:54) say:

> In this season [summer] too we must watch where we go, as many of the storage caches which are scattered promiscuously throughout the village are empty and open pitfalls for the feet of the unwary. Henry says: 'So numerous about the village are these pits that it is really dangerous for a stranger to stir out after dark.'

Rapid filling of these pits would also have reflected their convenience as receptacles for household refuse:

> . . . abandoned storage pits, with their small orifices, large below-ground capacities, and locations near dwellings, would have been highly desirable repositories for waste materials. Once filled, there would have been little chance of dispersal of the garbage by animals and human traffic. And, protected in such pits, the garbage would have attracted fewer vermin [Dickens 1985:42, 43].

Sub-class 2.2 (n=20)

Sub-class 2.2 pit features (Figure 4.5; Table 4.5) resemble Sub-class 2.1 pits except that they occur inside contemporaneous structures. Eighty-four percent of these interior cache/storage facilities exhibited multiple zoned fills. Interior pit size varies less than exterior pit size but the mean volume of Sub-class 2.2 features is very near the adjusted mean volume for Sub-class 2.1 pits. Volumes range from 0.23 to 0.7 m^3 ($x = 0.44$; $s = 0.14$).

Ethnographic analogy suggests that interior pits were used for short-term storage of commodities recovered on an on-going basis of need (e.g., daily provisions). There are few references to interior pits in the ethnographic literature of the Southeast (Swanton 1946). Nevertheless, specific references to the function and location of such pits are numerous and explicit for groups in other regions of North America. For instance:

> The caches of the Mandans are described by Catlin as jug-shaped. They were 6 to 8 feet deep, held 20 to 30 bushels and had narrow mouths just wide enough for a person to go through. One for the storage of provisions for immediate use was inside the lodge, back of the fireplace, while the others were dug outside, near the lodge [Will and Hyde 1964:133, 134].

Elsewhere, the same authors state:

> Dorsey says of the Pawnee caches: 'Just inside the lodge and to the north of the entrance was built, in winter, the sweat lodge, while at the corresponding position on the south side was an excavation used as a storage cellar for provisions, such as corn and meat, intended for service in the near future. The surplus stock of provisions was cached in

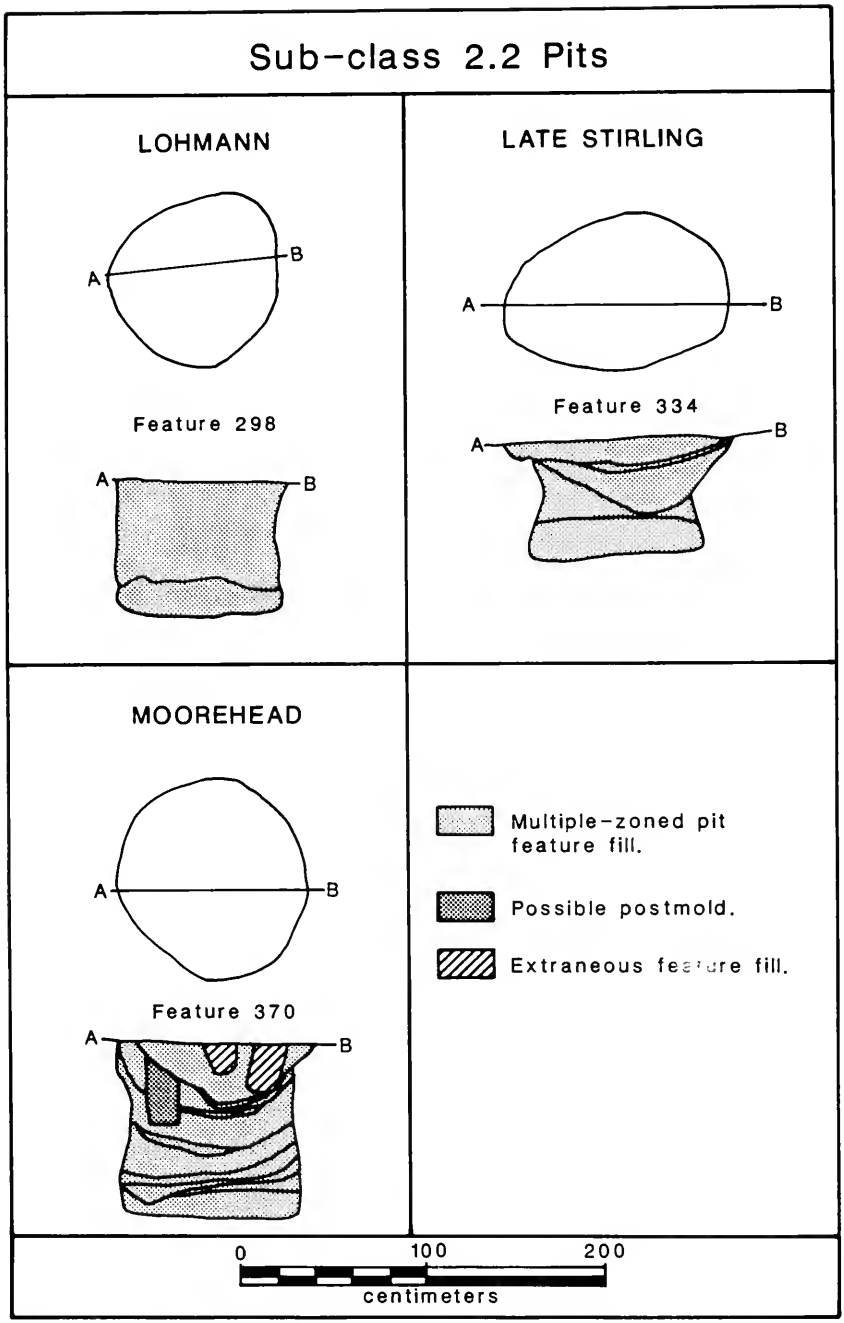


Figure 4.5. Representative examples of Sub-class 2.2 interior cache/storage pits.

> excavations generally outside and to the north of the lodge' [Will and Hyde 1964:134, 135].

Such an interior cache was illustrated by Morgan (1965:135, Figure 18).

Continually reopened caches would have benefited from being covered by a roof. Hall et al. (1956:3) found that in India, the Middle East, and Africa, caches were often placed inside dwellings "to minimize the risk of the grain being stolen. . . [and]. . .where they are protected from surface water." Water damage to caches was evidently an occasional problem among the Plains tribes: ". . . Bradbury informs us that on July 15, 1811, the heavy rains penetrated the Arikara caches and spoiled all their supplies, so that they expected to be in want until the new crop could be harvested" (Will and Hyde 1964:138).

Based on data from the ICT–II, personal belongings were also cached in interior storage pits. Occasionally, as was the case with Feature 334, these personal belongings were never recovered by their owners.

Sub-class 2.3 (n=41)

Sub-class 2.3 pits (Figure 4.6; Table 4.6) are considered "small cache pits." There is little to morphologically distinguish these features from those of Sub-class 1.1. Like the latter, Sub-class 2.3 features may have basin-shaped profiles and single-zoned incidental fills. Unlike Sub-class 1.1 features, Sub-class 2.3 pits occur inside contemporary structures, or, if outside, retain evidence that their original use was as cache pits. In addition to basin or irregular basin-shaped profiles, Sub-class 2.3 also includes examples of conical, belled, or modified cylindrical profile shapes. The latter two profiles appear in this sub-class as miniature versions of the larger Sub-class 2.2 features. Sub-class 2.3 volumes range from 0.002 to 0.17 m^3 ($x = 0.04$; $s = 0.04$).

These features probably served for temporary storage of personal items, tools, and household goods. When abandoned, or when not in use, they were probably filled immediately to remove internal obstacles and optimize floorspace. This interpretation is supported by the fact that 80% of Sub-class 2.3 features were filled in single episodes.

Where multiple fill zones were defined, the sequence reflected either discrete filling episodes or repeated use of the same pit over time. Discrete filling episodes may represent the periodic disposal of floor sweepings. Hayden and Cannon (1983:126) found that among Maya households living in single room houses with dirt floors:

> Most food preparation, craft activities, and socializing took place in the center of these structures, around the hearth. Debris from food preparation and other activities such as woodworking was generally left to fall on the floor. One of the daily tasks of the women was to sweep the floor clean of such debris. Although the value of such organic matter as fertilizer was widely recognized. . ., people, with few exceptions, did not seem to feel that its value was sufficient to merit substantial efforts involving its disposal.

Southeastern Indians of the early historic period appear to have been similarly fastidious in their housekeeping. Speaking of the Tunica, Adair (1930:443) says: "Most of the Indians have clean, neat, dwelling houses. . ." and the Gentleman of Elvas (quoted in Black 1967:502) says of Toa houses: "These houses are verie cleanly." Small cache pits not in use may have been convenient receptacles for daily floor sweepings.

Some Sub-class 2.3 features reflected repeated use of the same pit through time. The zones recognized in these pits represented serial episodes of filling and re-excavation.

Sub-class 2.4 (n=1)

Sub-class 2.4 is represented by a single large bell-shaped pit (Feature 423; Figure 4.7) which is morphologically similar to the Sub-class 2.1 and 2.2 features described above. However, as the Sub-class 2.4 pit contained the only articulated human burial recovered during the ICT–II investigation, it warrants a separate classification. The burial pit had a volume of 0.44 m^3.

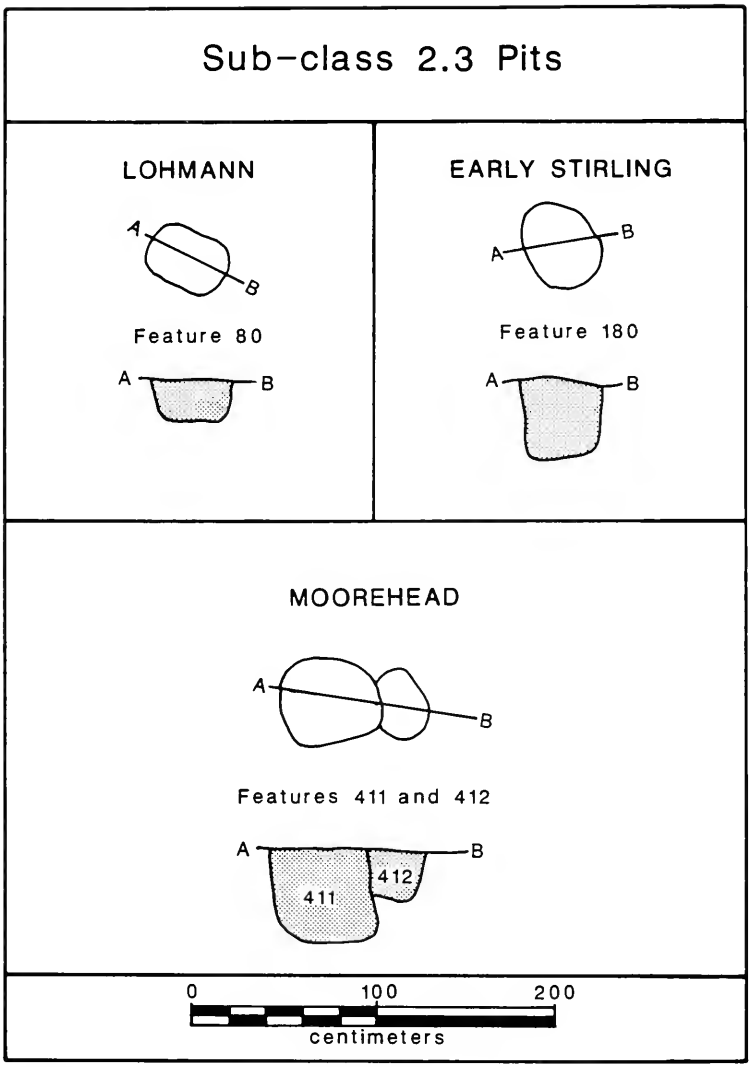


Figure 4.6. Representative examples of Sub-class 2.3 small cache pits.

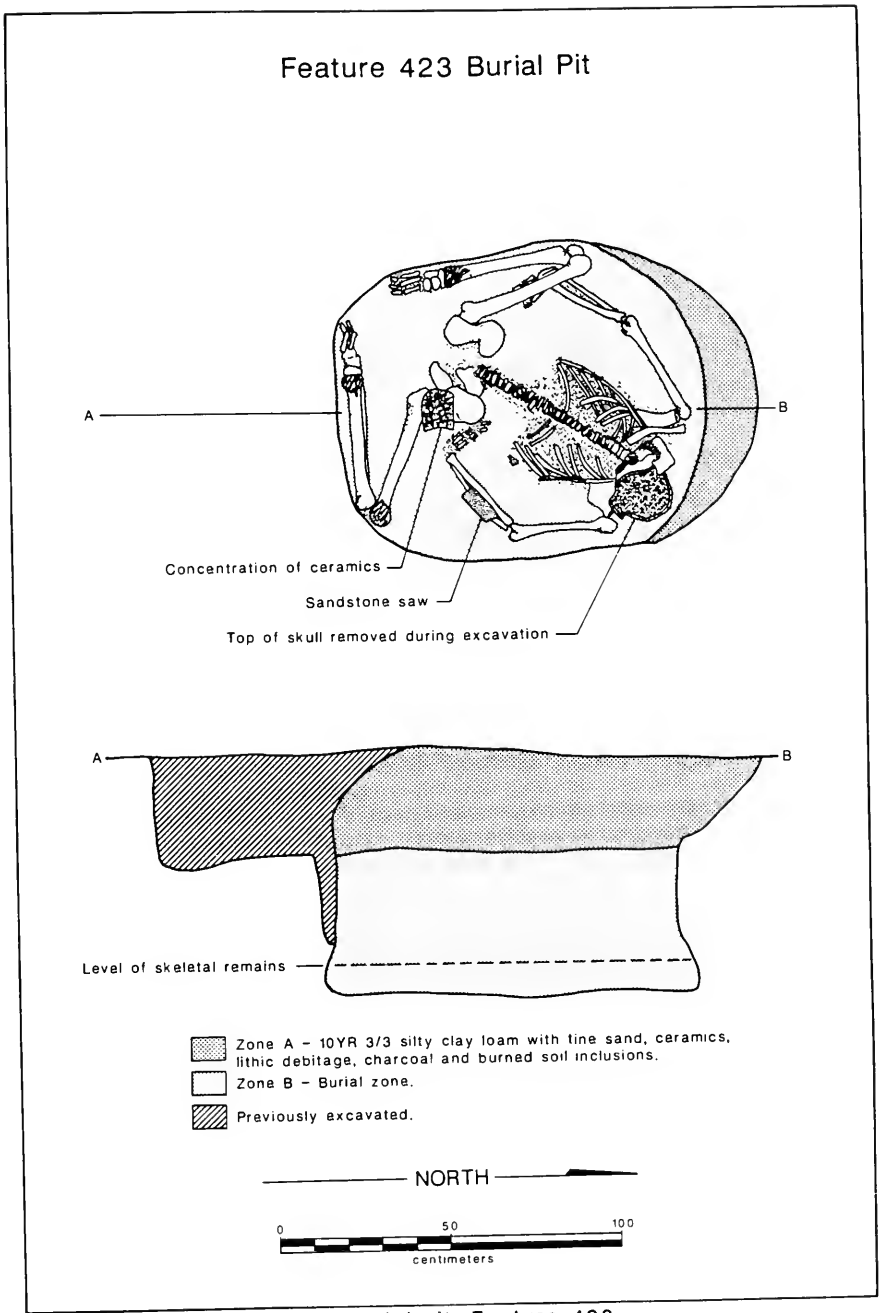


Figure 4.7. Sub-class 2.4 burial pit, Feature 423.

Whether interment of the dead was the intended function of the pit is uncertain. It is possible that a large cache/storage pit was converted to mortuary use, but the lack of debris unrelated to burial argues against this interpretation. It is also possible that the pit was dug expressly for the burial of the specific individual interred. It should be noted that the individual exhibited a posture more reminiscent of Woodland burials than of most Mississippian interments.

In discussing southeastern burial pits, Dickens (1985:42) notes that "usually the fill of these pits does not contain garbage or any other kind of refuse. Occasionally, however, there will be garbage in the upper portion of such a pit, in a pocket created when the fill slumped following decay of the corpse and its associated wrappings, coverings, etc." This description accurately characterizes the burial pit at the ICT–II. The burial pit fill was quite sterile except for minor grave inclusions, and there did appear to be a refuse-filled, slumped depression within the upper portion of the pit. Milner (1987) provides a detailed discussion of the ICT–II burial.

Feature Class 3—Fire Related Features (n=49)

Class 3 features are characterized by evidence of in situ burning, apparently related to the primary function of these features. Five sub-classes have been defined. These include hearths, fire-pits, fire-pits with posts, smudge pits, and large (possibly communal) cooking facilities.

Sub-class 3.1 (n=18)

Sub-class 3.1 features are hearths (Figure 4.8; Table 4.7). Included in this classification are shallow depressions lined with oxidized clay as well as heavily oxidized, flat surfaces. Circumstances surrounding the formation of such features are reconstructed as follows:

> We see the fireplace as a shallow basin or pocket in the earth, more or less worn down by raking out the ashes and by fire action. It assumes naturally the appearance of a circular shallow place for the fire, located for convenience and safety. The placing of the fuel has much to do with the contour of the fireplace. There appears an invention to raise the fuel above the fire bed and promote combustion, consisting of stones set in the fire [Hough 1926:11, 12].

Hearths at the ICT–II were located both inside and outside of structures. Internal hearths were normally located in the center of the structure. As Hough (1926:13) logically suggests, "the reason is that the house is built of inflammable material, and the fire cannot be safely laid to one side. Another reason is that the fire in the center allows the greatest area of floor space at an equal distance from the heat and light." Among the few references to hearth placement in southeastern Indian settlements is Swanton's (1946:426, 427) description:

> House fires were usually built in the middle of the cabin, and this usage was general in the winter house and in all of the others so far as we have any record. In the warmer parts of the south, however, in summer the fire was often made out of doors. . . the fire was usually on the bare floor, but often in a depression clayed up on all sides.

Hearths served as sources of heat and light, and were also used for cooking, in ritual observances, and for pest control. Smoke from interior hearths may have also helped cure wood and thatch. At least two of the hearths excavated at the ICT–II had associated postmolds. These postmolds no doubt were used to suspend food, utensils, and other articles near the fire for cooking, heating, or drying.

Sub-class 3.2 (n=15)

Sub-class 3.2 (Figure 4.9; Table 4.8) consists of pit features in which evidence of in situ burning is unequivocal as well as revealing, insofar as the primary function of the pit is concerned (i.e., cooking, smoking, etc.). Feature volumes in this sub-class vary widely, ranging from 0.002 to 1.18 m^3 ($x = 0.16$; s

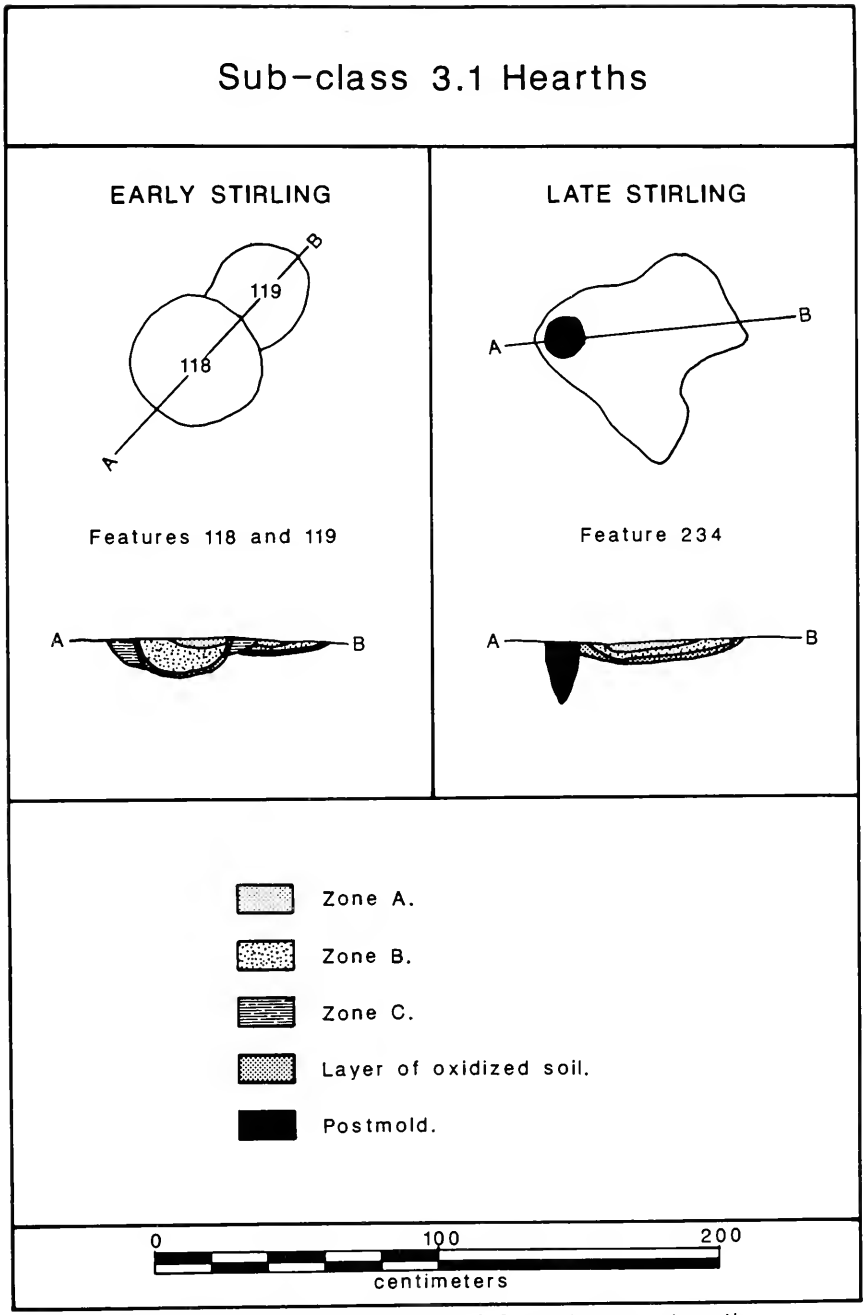


Figure 4.8. Representative examples of Sub-class 3.1 hearths.

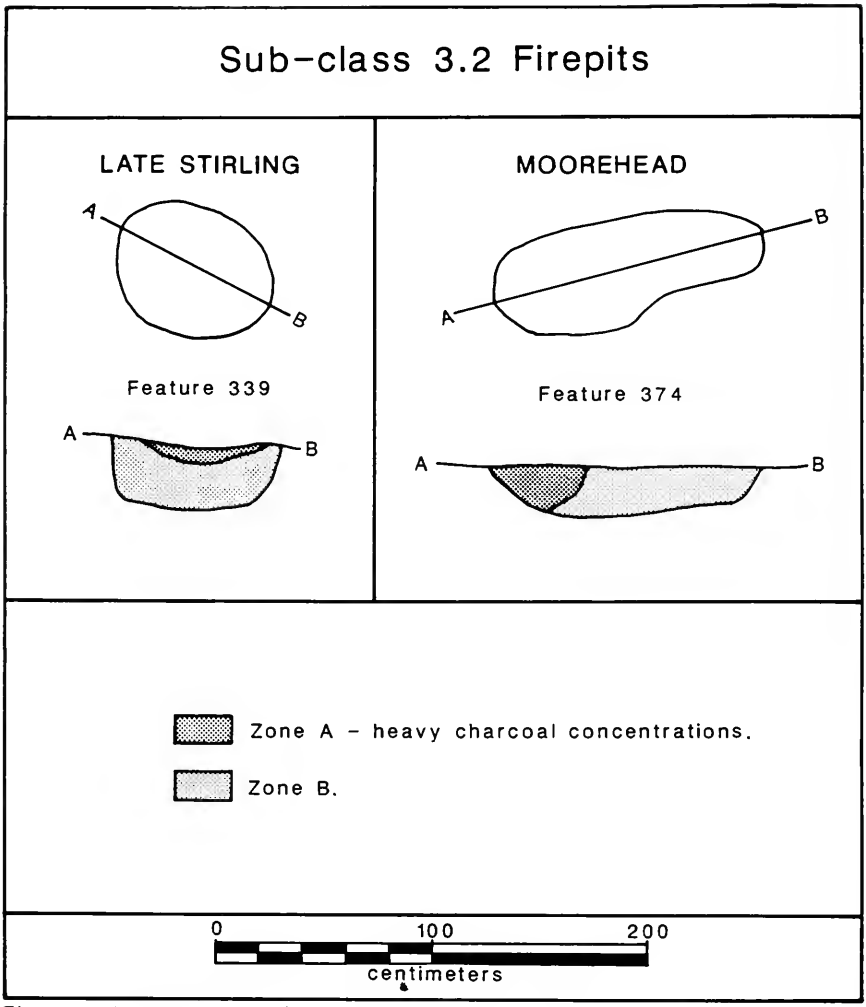


Figure 4.9. Representative examples of Sub-class 3.2 firepits.

= 0.31). The wide variability in size most likely reflects functional variability. These features exhibited variable depth and basin-shaped profiles, and contained burned areas, and sometimes, fire-cracked rock.

Sub-class 3.2 features were used primarily in the preparation of food for consumption or storage. In his review of primitive cooking techniques, Hough (1926:32) cites many ethnographic examples of cooking facilities which could translate archaeologically into Sub-class 3.2 features. Among the techniques discussed by Hough are those involving direct heating (e.g. roasting, broiling), and those involving indirect heating (e.g. baking, boiling). All of these cooking methods were observed by early travelers among the Indians of the Southeast (see Swanton 1946), and some were clearly illustrated by White and de Bry (see Harriot 1972).

Sub-class 3.3 (n=3)

Sub-class 3.3 features (Figure 4.10; Table 4.9) are morphologically identical to the above-described Sub-class 3.2 features, except that they have associated postmolds. There is little doubt that these postmolds are the archaeological remnants of spits, gridirons, grates, cranes, or other structural components of cooking facilities similar to those described by Hough (1926:20, 21). Postmolds were probably also associated with many of the Sub-class 3.2 features, but did not survive plowing disturbance.

Sub-class 3.4 (n=8)

Sub-class 3.4 features (Figure 4.11; Table 4.10) are small pits containing quantities of carbonized corncobs, twigs, cornstalks, bark, and wood. These features exhibit the attributes of smudge pits (Binford 1972a:45). There is ample ethnographic evidence that southeastern and other North American Indians used smudge pits for hide smoking (see Binford 1972a:42-45). Other proposed functions include pest (mosquito) control (Binford et al. 1964) and use in pottery manufacture (Munson 1969). Hide smoking appears to be the principal use of smudge pits at the ICT–II. It is possible that some Sub-class 3.4 features were used for insect control, but it does not appear that they functioned in ceramic production (George Holley, personal communication, 1987).

Sub-class 3.5 (n=5)

Sub-class 3.5 features (Figure 4.12; Table 4.11) clearly represent large cooking facilities which may have been communal and, in some cases, possibly ceremonial. These features take two forms: the first (Type 1) is a true rectangle in both plan and profile; the second (Type 2) is elliptical in plan and basin-shaped to rectangular in profile. Fill volumes range from 1.22 to 3.36 m^3 ($x = 2.18$; $s = 0.77$). These features contain large quantities of charcoal, carbonized plant remains, burned earth, burned limestone and sandstone, and other refuse typical of cooking facilities (i.e., ceramics, metates, bone, etc.).

Type 1 features are interpreted here as pit ovens, a form that Hough (1926:35) informs us "is both an ancient and widely distributed device for cooking . . .[and they] may be divided into the heap ovens and pit ovens." These features are morphologically similar to the deep earth ovens described by Binford et al. (1970) at Hatchery West, but unlike the latter, the majority of the ICT–II examples exhibited one or more postmolds along their long axes and contained some evidence of direct heating.

The Type 1 Sub-class 3.5 features may have been used for both baking and roasting at various times. According to Hough (1926:34), "Food dried and hardened by cooking in an oven is said to be baked, according to definition, and the oven is an inclosed chamber in which food is cooked by indirect heat from the walls." Hot rocks are the usual medium of indirect heat used in pit ovens. Hough (1926:37) provides the following example:

> A pit oven for cooking new corn is employed by the Winnebago Indians. They dig a large circular pit 1 to 2 feet in depth, with flat smooth bottom, heaping the excavated earth in a ring around the border of the pit. A heap of new corn is piled near by and rocks are heated on a fire. Everything being in readiness, the hot rocks are piled in the middle of the pit and the corn heaped in, leaving a central hole down to the rocks. Earth is covered over the

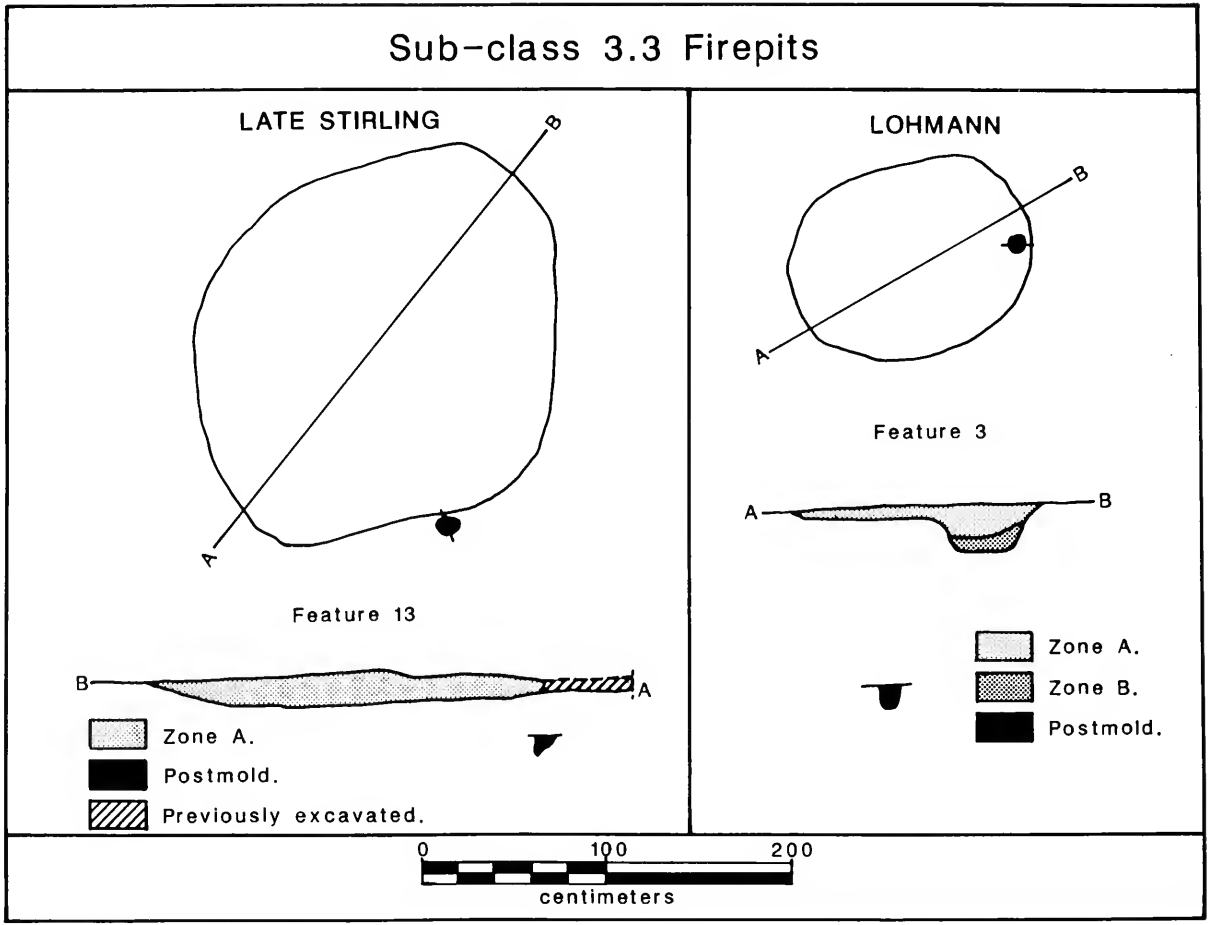


Figure 4.10. Representative examples of Sub-class 3.3 firepits with posts.

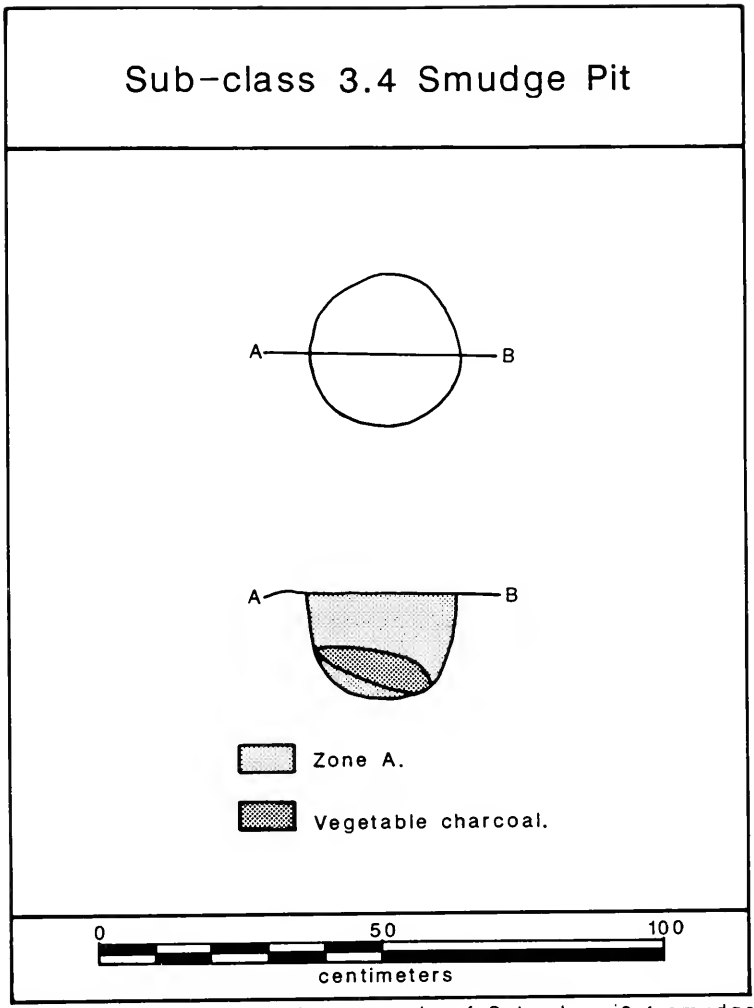


Figure 4.11. Representative example of Sub-class 3.4 smudge pits.

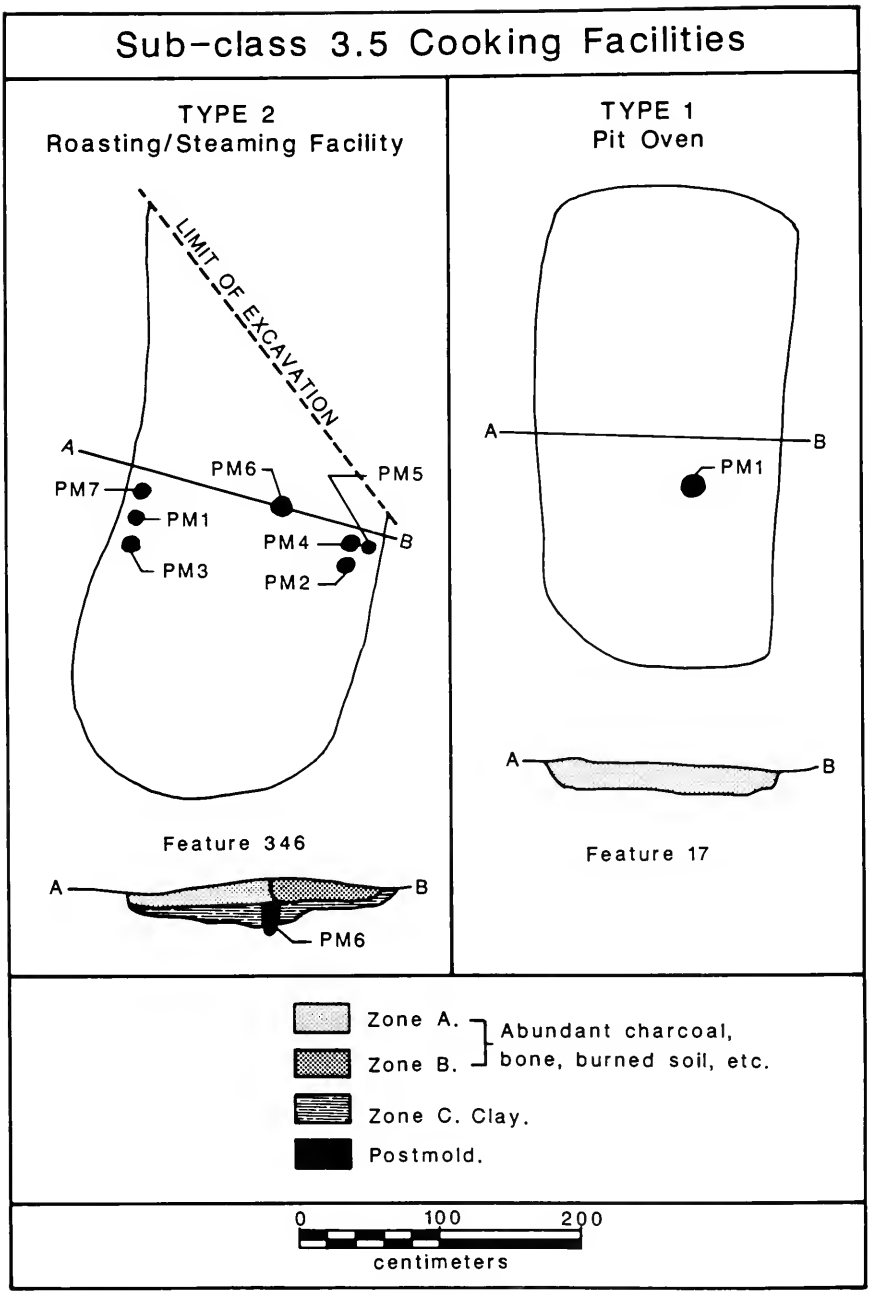


Figure 4.12. Representative examples of Sub-class 3.5 pit ovens (Type 1) and roasting/steaming facilities (Type 2).

mass and water poured down onto the rocks, producing a tremendous volume of steam. The pit remains closed for several hours.

Use of direct heating techniques in pit ovens was also fairly common. Diliette (Pease and Werner 1934:346, quoted by Brown 1975:15) described this type of pit oven in use among the Illini:

> Sometimes three or four cabins combine and dig a hole in the ground five or six feet deep and ten or twelve square. They throw a great deal of wood into it, which they set on fire, and when it is aflame they throw in a number of rocks which they care to turn over with big levers until they are all red; then they go in quest of a large quantity of grass . . . and which they spread as well as they can over these rocks to the thickness of about a foot, after which they throw on many buckets of water, and then as fast as they can each cabin puts roots in its own place, covering them over with dry grass and bark and finally earth. They leave them thus for three days.

Type 2 features represent large roasting facilities similar to the roasting pits of the Omaha described by La Flesche (Hough 1926:36):

> A trench is dug and a fire made in it and left to burn till there are plenty of coals. Corn is stripped down to its thin husks and put on the coals by women sitting at the sides of this trench. These women have to work quickly to tend the corn so that it will roast evenly. The ears are handled with the hands only. When roasted the corn is cut off the cobs and dried.

Swanton (1946:351) informs us that "'Roasting ears' are mentioned by nearly all of our earliest authorities."

Postmolds were noted along the margins of Sub-class 3.5 Type 2 Feature 346 and these are taken as evidence that the feature was used for roasting foodstuffs, including waterfowl, above the fire (see Kelly n.d.). This is consistent with a Yuchi cooking technique described by Speck (1909:45, quoted by Swanton 1946:370): "The flesh of game mammals, birds, kandi, fish, cu, were roasted or boiled on a framework of green sticks resting on cross pieces which were supported on forked uprights over the fire. The device was simply a stationary broiling frame."

Feature Class 4—Postmolds and Post Pits (n=40)

Class 4 features include the relict molds and pits of a variety of free-standing and structural posts. The free-standing post features are located in plazas, patios, and possibly, doorways. Structural post features are associated in some way with structures.

Sub-class 4.1 (n=25)

Sub-class 4.1 includes the archaeological relicts of former plaza and patio/door posts (Figure 4.13; Table 4.12). Plaza posts (n = 3) were large, free-standing posts centrally located in large, open areas thought to be plazas. These posts appear to have been focal points in the plazas. Plaza posts appear on sites in the American Bottom at least by the Mund phase of the Late Woodland period (Kelly et al. 1984a) and persist as significant components of many settlements throughout the Emergent Mississippian (Kelly et al. 1984b), Mississippian (Porter 1974), and Historic (Howard 1968) periods. It seems likely that these posts were carved and/or painted, and that they represented the standard of the local lineage, clan, or moiety of the inhabitants surrounding the plaza. It is also possible that these plaza posts symbolized the physical separation of groups occupying each side of the plaza.

Patio/door posts probably served similar but more personal, family-oriented functions. Patio/door posts sometimes are associated with groups of structures that represent possible household compounds. In other instances, patio/door posts are located near a single structure, where they are thought to mark the entrance to the structure. Alternatively, some of these patio/door posts may represent the location of household wooden mortars. By sharpening the bottom of the mortar and sticking it firmly in the ground, prehistoric Indians created a feature which would appear archaeologically as a large postmold.

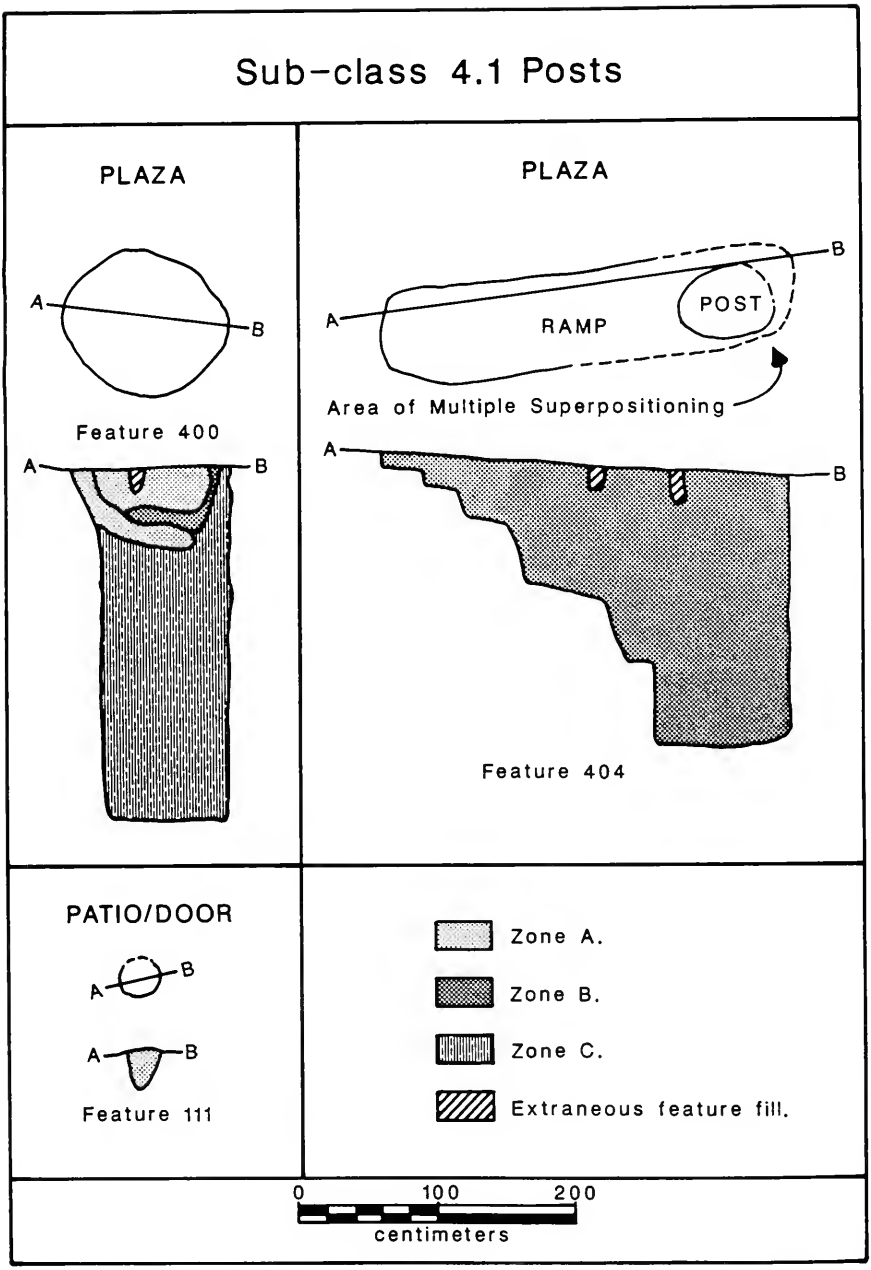


Figure 4.13. Representative examples of Sub-class 4.1 free-standing post features.

Ethnographic references for each of these features are fairly common. Bartram (1955:163) says of entering a southeastern Indian town: "We were welcomed to the town, and conducted by the young men and maidens to the chief's house, which stood on an eminence, and was distinguished from the rest by its superior magnitude, a large flag being hoisted on a high staff at one corner." Elsewhere, he observes: "The men perform nothing except erecting their mean habitations, forming their canoes, stone pipes, tambour, eagles tail or *standard*, and some other trifling matters; for war and hunting are their principal employments" (Bartram 1955:401; emphasis added).

These standards or staves may have been elaborately carved: "A custom which was evidently quite fixed in the South was that of placing a carved wooden figure of a bird above the council house, temple, or the most important building of the town" (Bushnell 1919:100). Most of the free-standing posts depicted by White and de Bry (see Harriot 1972) exhibit carved human features. Such posts were observed by Smith (1910) at the four corners of Powhatan's principal storehouse, where they are said to have "acted as sentinels" (Turner 1985:205). Such carved posts and standard posts are apparently found in many primitive cultures. Catlin (1973:Plate 67) illustrates large posts outside a lodge in a Mandan village (see also McCracken 1959:127). So-called scalp posts were commonly found outside the lodges of several northeastern tribes.

Many ethnographic drawings and photographs show wooden mortars in prominent positions just outside Indian dwellings (see Swanton 1946). Will and Hyde (1954:170, quoting Fletcher and La Flesche), describe the wooden mortars of the Omaha Indians:

> The making of wood articles was also the task of the men. The mortar (u'he), which was a necessity in every household, was formed from a section of a tree-trunk a foot or so in diameter and about three feet long. One end was chipped to a point so that it could be thrust into the ground to hold the utensil steady when in use; the other end was hollowed out to form the receptacle for the corn.

A number of Sub-class 4.1 features were paired. The significance of this is not apparent at this time. Perhaps paired posts represent heavy-duty racks, used for hanging large game.

Sub-class 4.2 (n=15)

Sub-class 4.2 structural posts are listed in Table 4.13. In most cases, architectural posts were assigned consecutive numeric subscripts which were appended to the main structure feature number (e.g., Feature 8, Postmold 1; see Finney 1979:25-27). Occasionally, for various reasons—such as ambiguity of association or inability to distinguish large posts from interior pits—some structural posts were assigned discrete feature numbers. Ten Sub-class 4.2 features fall into this category.

In addition, some structural posts were considered sufficiently distinctive to warrant assignment of separate feature numbers. For example, three features at the ICT–II are interpreted as step posts. Such features would have facilitated entry into deep basin structures. Similar features have been found in other structures excavated at the Cahokia site—e.g., Feature 306, Postmold 60 at the Merrell Tract (John Kelly, personal communication:1987; see Kelly 1982:605, Map 14). The usefulness of such step posts was evident to visitors entering the Merrell Tract House 306 reconstruction at the old Cahokia Mounds Museum.

Sub-class 4.2 includes two postmolds which are believed to represent the threshold of Structure 233. These features (Feature 236 and 252) are not the only threshold posts recognized at the ICT–II, but they are the only ones assigned separate feature numbers.

Feature Class 5—Enclosed Wall Trench Structures (n=71)

Feature Class 5 includes structures with wall trench foundations. The Class includes rectangular, approximately square, and unusually shaped wall trench structures. It must be noted that the fill (soil and debris) contained in structures, with rare exceptions, does not include in situ domestic assemblages of the inhabitants of those structures. Rather, the fills derive from secondary refuse and dirt which accumulated in the structure basins after abandonment. Accumulation of structure basin fills appears to have been

sometimes gradual and sometimes rapid. When filling was gradual, there was a greater density of secondary refuse in the fill. Gradual basin filling also resulted in multiple discrete fill zones. Rapid intentional filling was sometimes accomplished using soil imported from beyond the immediate environs of the ICT–II (e.g., sandy soil from open borrow pits). In some cases, this purposeful filling appeared to have been undertaken as a single event to level the landscape, a prehistoric example of land reclamation or "urban renewal."

Sub-class 5.1 (n=43)

Sub-class 5.1 includes all rectangular wall trench structures with enclosed areas greater than eleven square meters (Figure 4.14a,b; Table 4.14). Eleven square meters is an arbitrarily selected figure separating Sub-class 5.1 structures from smaller Sub-class 5.2 features. The smaller structures, however, are believed to be functionally distinct (see below).

Sub-class 5.1 features are typical of domestic household structures of the Lohmann and Stirling occupations at the ICT–II. This is not to suggest that there is a one-to-one correspondence between structures and households. On the contrary, it is probable that any given household utilized more than one structure.

A variety of metric data has been recorded for Sub-class 5.1 features. For the sub-class as a whole, irrespective of chronology, key measurements include length ($x = 5.52$ m; $s = 0.75$); width ($x = 3.13$ m; $s = 0.52$); depth ($x = 0.29$ m; $s = 0.13$); volume ($x = 4.42$ m^3; $s = 1.68$); length/width ratio ($x = 1.78:1$; $s = 0.22$); average trench width ($x = 0.14$ m; $s = 0.02$); and average post diameter ($x = 0.09$ m; $s = 0.02$). It is important to note that there was significant variation in means over time.

Whenever a given variable for a given structure could not be recorded it was deleted from the sample. For instance, if a structure exhibited no basin, presumably because the basin had been destroyed in the plowzone, depth and volume measurements for that structure were eliminated from the sample rather than assigned a value of zero. This procedure tends to create a mean which is slightly high; however, we prefer a slightly higher mean to one that is far too low, as would result from using zero values. This is a bias which we explicitly acknowledge and which should be recognized by researchers using these data.

McConaughy (1985) has reviewed data for 39 burned Mississippian houses in Illinois. Based on observable elements of construction, he determined that these structures included gabled-roof, hipped-roof, and wigwam forms. McConaughy defined gabled-roofs as having "sloping side and vertical end panels while hipped-roofs have four sloping roof sections" (McConaughy 1985:5). The wigwam form [sometimes called 'arbor-roof' (see Binford et al. 1970)] is made by bending "beams from opposing walls [which] apparently were tied together at the apex of the curve to form a combined roof and wall framework" (McConaughy 1985:12). Wigwams, all of which were circular or oval in shape, appeared infrequently in McConaughy's sample (4 of 39). All Sub-class 5.1 features at the ICT–II are believed to reflect gabled or hipped-roof design.

Rectangular wall trench houses are among the most common features encountered on Mississippian sites, and there have been many excellent analyses of their architecture and construction (Lewis and Kneberg 1946; Price 1969; McConaughy 1985; McConaughy et al. 1985; and Pauketat and Woods 1986, to name a few). It is not our purpose to present a detailed architectural analysis, although one significant aspect of Sub-class 5.1 structures should be noted. There is little evidence that Sub-class 5.1 structures at the ICT–II were constructed with daub. This is not unusual for Mississippian structures in the region:

> Burned late prehistoric structures in Illinois and Missouri often do not exhibit daub on walls (McConaughy 1985:11; Powell 1980:13; Price and Griffin 1979:31). Possible evidence of daubed structures has been recovered only from Moorehead contexts in the American Bottom. . . . Other burned late prehistoric buildings in the American Bottom provide no hint of daub (Mehrer 1982:186; Milner 1984a:44-48; Pauketat n.d.) [Pauketat 1986:52].

See Feature Class 7, Sub-class 7.4 for further discussion of daub at the ICT–II.

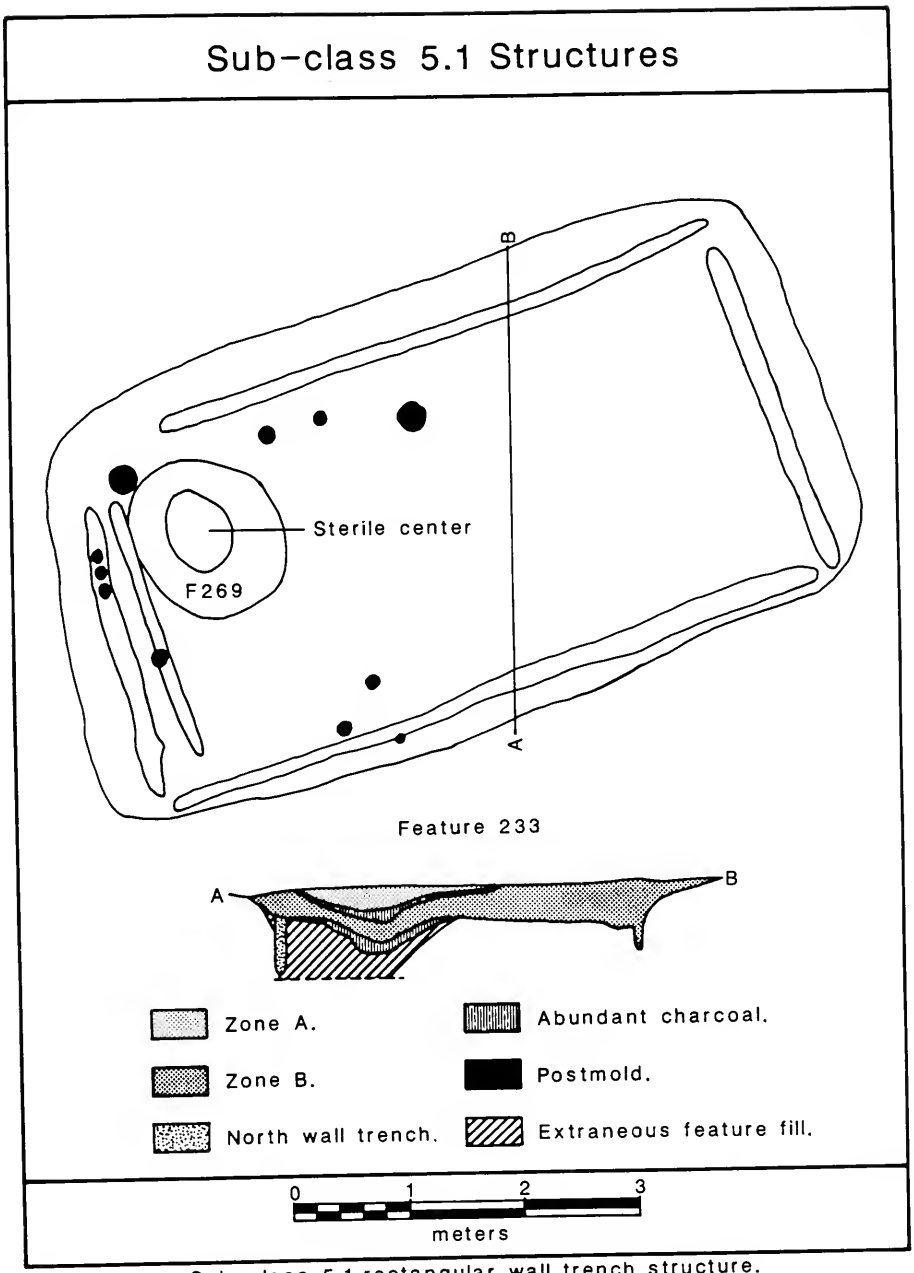


Figure 4.14a. Sub-class 5.1 rectangular wall trench structure.

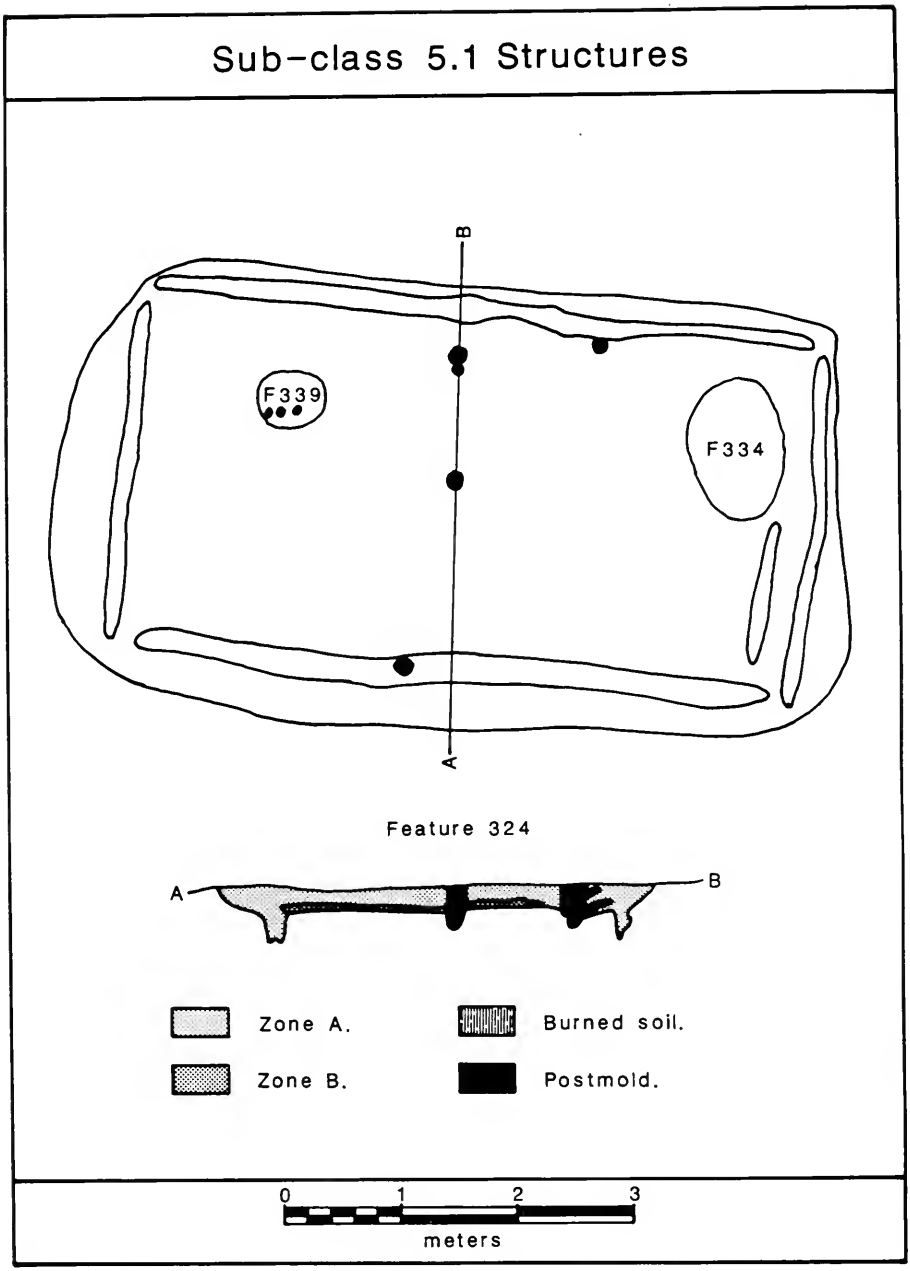


Figure 4.14b. Sub-class 5.1 rectangular wall trench structure.

Sub-class 5.2 (n=13)

Sub-class 5.2 includes all rectangular wall trench structures with enclosed areas less than eleven square meters (Figure 4.15a,b; Table 4.15). Aside from mere size, Sub-class 5.2 features also are distinguished from other structures by their spatial contexts.

Means and standard deviations of metric variables for Sub-class 5.2 structures are as follows: length (x = 3.84 m; s = 0.89); width (x = 2.9 m; s =0.13); depth of basin (x = 0.23 m; s = 0.09); length/width ratio (x = 1.77:1; s = 0.20); area (x = 9.35 m^2; s = 1.41); volume (x = 2.18 m^3; s = 0.94); average trench width (x = 0.12 m; s = 0.02); average post diameter (x = 0.09 m; s = 0.02).

Most Sub-class 5.2 structures are spatially somewhat isolated. This is especially true of the Early Stirling examples of the sub-class. In most instances, these features are situated between or on the edge of, rather than within feature clusters inferred to represent household compounds. This suggests that these structures served special, perhaps non-domestic, purposes. The many possible functional interpretations of the Sub-class 5.2 structures include their use as storage facilities, men's huts, newlyweds' housing, or women's huts.

Smyth (1987) has recently examined relationships between household structures and storage activities among native inhabitants of Yucatan. He suggests that certain structures function as storage facilities at certain times, based on annual scheduling requirements.

Bartram (1909:55-56) related that Creek households included separate storehouse structures: "Those who have four buildings have a particular use for each building. . . . The fourth house . . . is a skin house or ware-house, if the proprietor is a wealthy man, and engaged in trade or traffic, where he keeps his deer-skins, furs, merchandise, etc., and treats his customers."

Putative men's houses have been excavated at sites in the American Bottom. At the Julien site, interpretation of a large Moorehead phase structure as a men's house was based on the recovery of a large number of projectile points from a pit within the structure (Milner 1984a:44). It may be that the smallish Sub-class 5.2 structures at the ICT–II provided places where men could relax, socialize, or conduct business.

The physical separation of these structures may have provided a degree of privacy for newly married couples. Bartram (1955:402), describing certain southeastern Indian marriage ceremonies, related that "As soon as the wedding is over, the town is convened, and the council orders or recommends a new habitation to be constructed for the accommodation of the new family: every man in the town joins in the work, which is begun and finished in a day's time."

Another interpretation of the Sub-class 5.2 structures is that they were women's huts, used during menstruation and childbirth. Swanton (1946:713-716) is specific in discussing such customs among southeastern tribes:

> [Among the Cherokee] anciently, a separate house was built for the women during that period [child birth]. . . . At the time of her monthly periods and after the birth of a child a Creek woman lived in a house by herself for 4 days. . . . Chickasaw customs were very similar to those of the Creeks. They also had menstrual huts into which the women retired every month and when they were about to be delivered. . . . The women of the Choctaw, like those of the Creeks and Chickasaw, retired to a small cabin apart every month and when they were about to give birth to a child.

Driver (1961:435) states that in general Indian "birth took place in a special hut made for the purpose or in a screened-off portion of the house." It seems possible, given the uniform small size and physical isolation of nearly all the Sub-class 5.2 structures, that at least some of them may have been women's huts.

Sub-class 5.3 (n=10)

Sub-class 5.3 includes wall trench structures that are square or approach the square form (Figure 4.16a,b; Table 4.16). Structures were considered square or nearly square if they exhibited a length/width ratio which was equal to or less than 1.30:1. Sub-class 5.3 structures are typical of, but not restricted to, Moorehead phase domestic structures at the ICT–II. These structures vary considerably in size, a phenomenon that may be related to time.

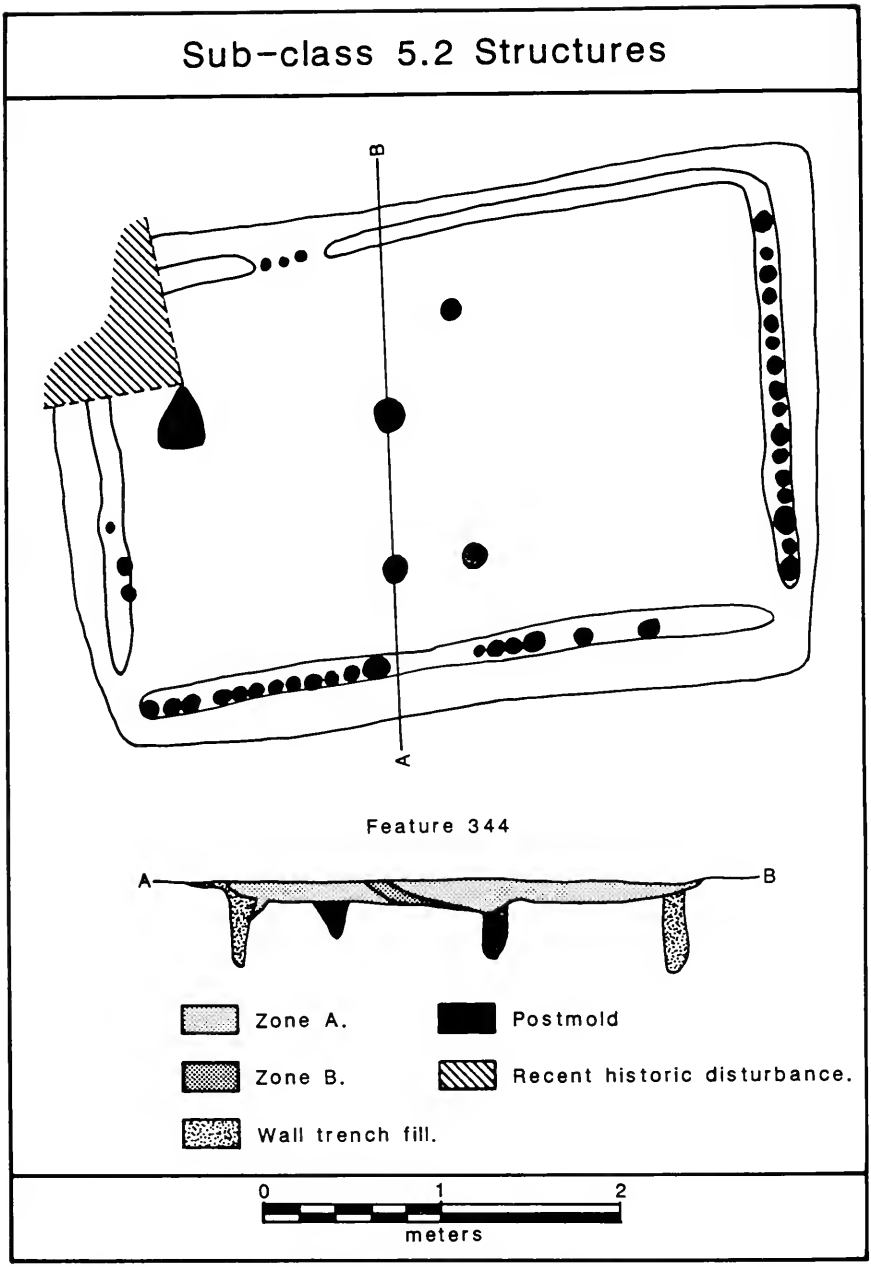


Figure 4.15a. Sub-class 5.2 small rectangular wall trench structure.

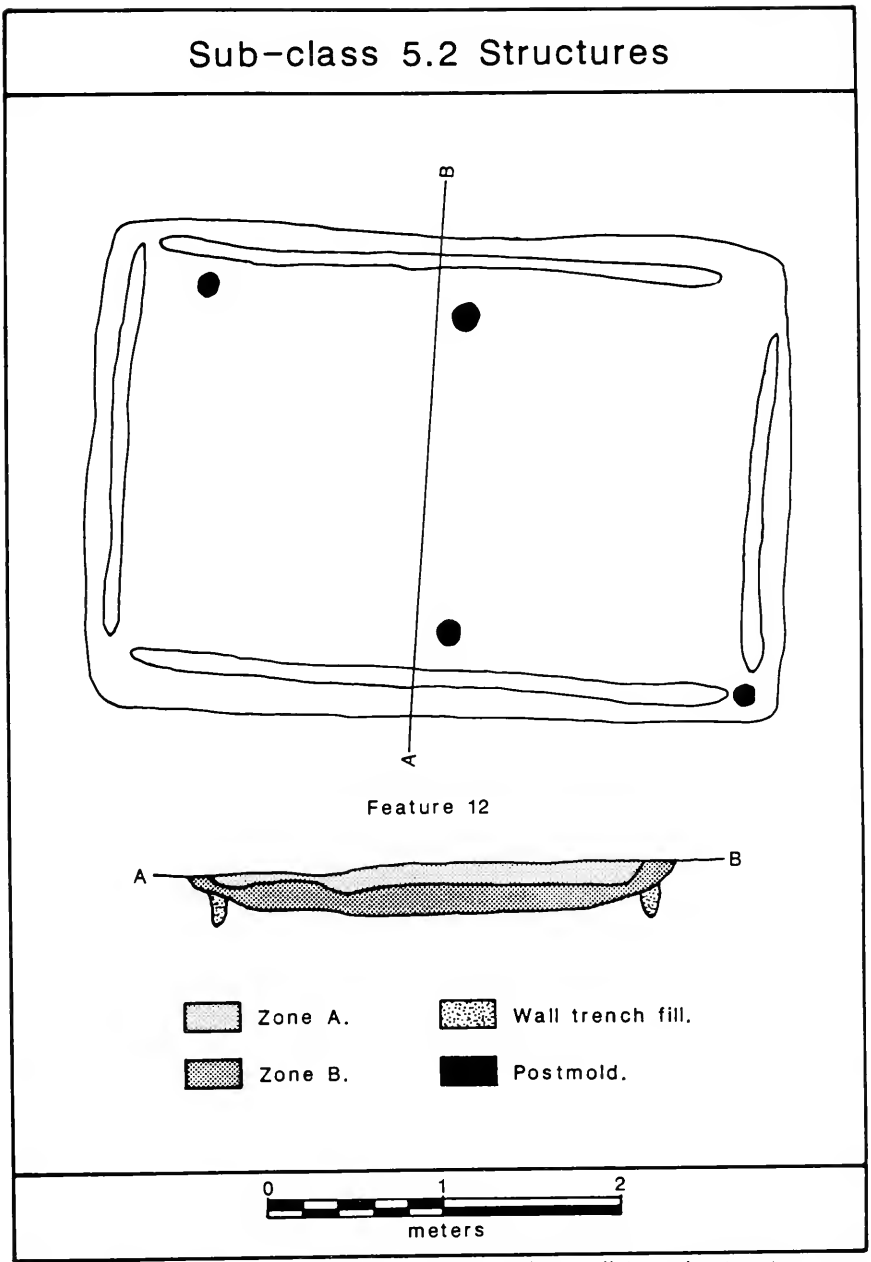


Figure 4.15b. Sub-class 5.2 small rectangular wall trench structure.

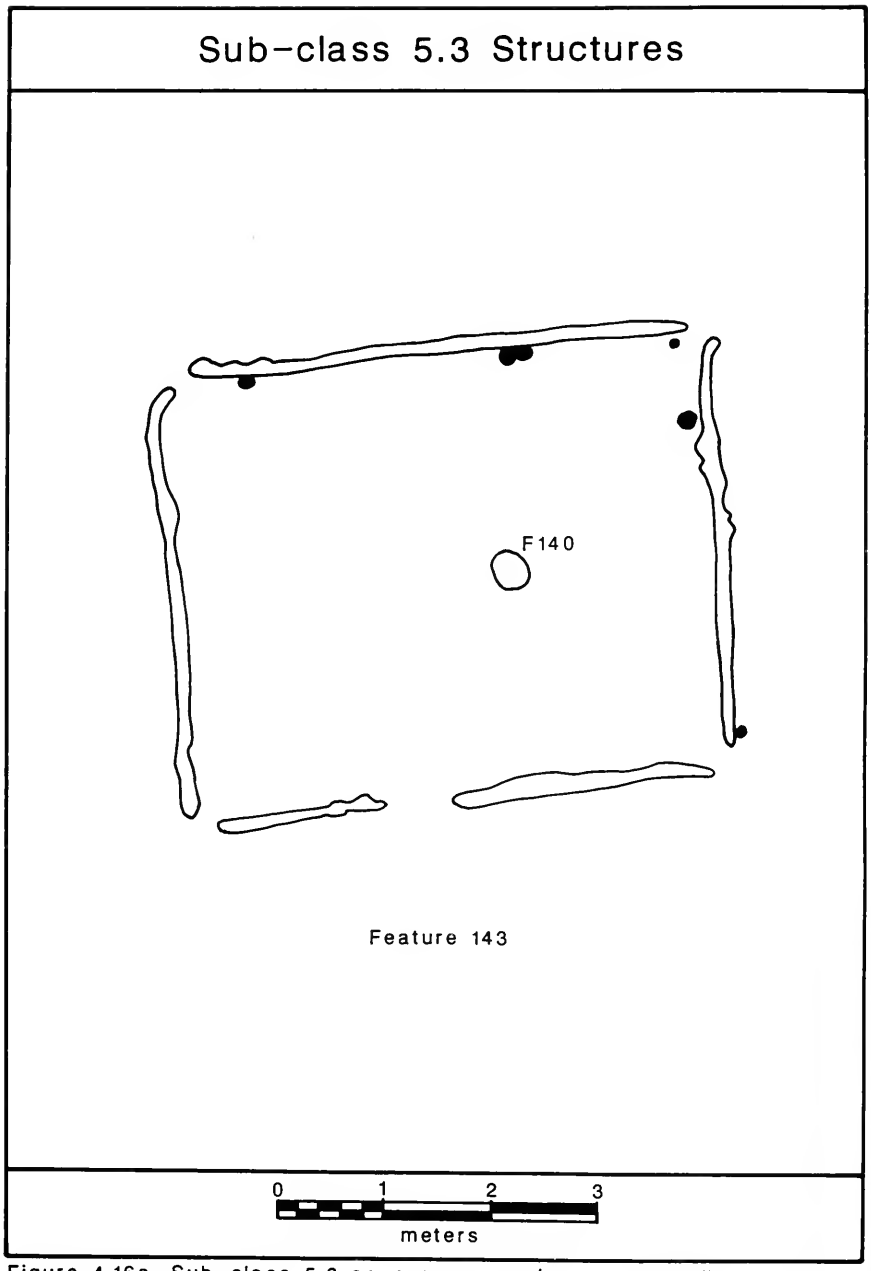


Figure 4.16a. Sub-class 5.3 square, or nearly square, wall trench structure.

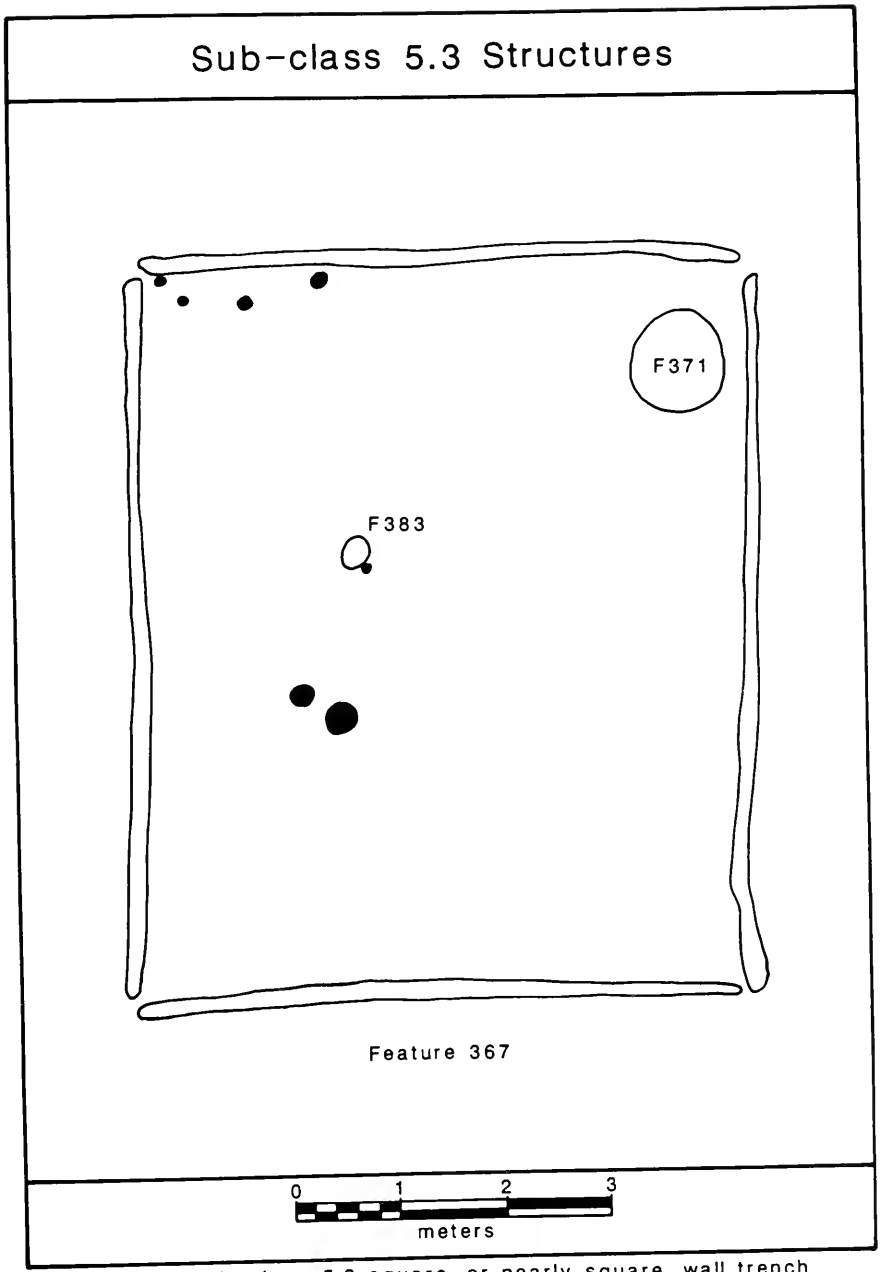


Figure 4.16b. Sub-class 5.3 square, or nearly square, wall trench structure.

The following are means and standard deviations of metric variables recorded for the sub-class: length (x = 4.9 m; s = 0.86); width (x = 4.13 m; s = 0.83); depth of basin (x = 0.19* m; s = 0.08*); length/width ratio (x = 1.18 : 1; s = 0.08); area (x = 20.86 m^2; s = 7.93); volume (x = 3.47* m^3; s = 0.85*); average trench width (x = 0.16 m; s = 0.01); and average post diameter (x = 0.13 m; s = 0.02). The statistics marked (*) above are based on metric data from only two structures that are dissimilar from the rest of the sub-class. With these two exceptions, Sub-class 5.2 structures are universally shallow.

Based on observation of construction elements and theoretical considerations, it seems likely that any "arbor-roof" structures (wigwams) at the ICT-II would be found among the smaller sub-class 5.3 features. However, many of these nearly square features contain both center posts and corner posts. McConaughy (1985:17) argues:

> Fortunately, one factor does seem to have utility in determining whether a dwelling is a wigwam or a gabled- or hipped-roofed form, the location of roof supports. The presence of roof support beams in corners, or along the longer axis of the house indicated the building had a gabled- or hipped-roof. Lack of support beams in these areas suggests that the structure is a wigwam.

This logic suggests the wigwam form is not present among Sub-class 5.1, 5.2, or 5.3 structures at the ICT-II.

Sub-class 5.4 (n=5)

Sub-class 5.4 includes enclosed wall trench structures exhibiting unusual shapes (Figure 4.17a-d; Table 4.17). Included are one true L-shape (Feature 131), one true T-shape (Feature 287), one modified L-shape (Feature 8), one modified T-shape (Feature 387), and one trapezoid (Feature 332). Each of these structures is unique and comparison of metric variables from the sub-class is not productive. Metric data for these structures are provided later in this report.

There is a natural tendency among researchers to view unusually shaped structures as special purpose facilities. Demonstrating that this is the case is not an easy matter. Nevertheless, there appears to be enough circumstantial evidence to suggest that one unusual structure (Feature 287) did serve a specialized function.

Feature 287 is a large, T-shaped structure, centrally located within a group of four Lohmann structures oriented to the cardinal directions and forming a circular pattern within the Lohmann community. Two large posts are located immediately next to the structure. The Feature 287 'alcove' formed by the T-stem may mark an entry portal, but other interpretations are possible.

It is likely that Feature 287 represents a "council house" or "chief's cabin." This is consistent with Tonti's 1704 description (quoted in Swanton 1911:259 and Black 1967:504) of a Taensa (Arkansas) chief's cabin, in which he states he was "never so surprised as on entering the cabin of the chief, because the other savages do not build in this manner. . . . On entering we saw the chief seated on a couch. There were more than 60 old men opposite him, . . . with an alcove where the chief reposes."

Alternatively, the alcove of Feature 287 could be interpreted as a *sanctum sanctorum* for the storage of sacred items. According to Howard (1968:125, 129):

> At the oldest [square] grounds, in Adair's time, the chief's bed was divided into two rooms. In other words, behind the open-fronted chamber which faced in on the square, there was a second room, separated by a wall from the front part. This second room, termed by Adair the "supposed holy of holies," could be entered from the front part of the bed. . . The room served as a storehouse for such sacred utensils as the medicine pots and conch shell dippers used in dispensing the black drink, the gourd rattles, the eagle-tail calumets, and the town war bundle.

While we are not *consciously* groping for Cahokia antecedents of the Green Corn Ceremony, Howard's description raises some interesting possibilities, along this line. The pattern of four features oriented toward the cardinal directions and around a "special" feature has been noted on at least four organizational levels at Cahokia (cf. Collins 1987; Smith 1942; 1969). This pattern may have been a

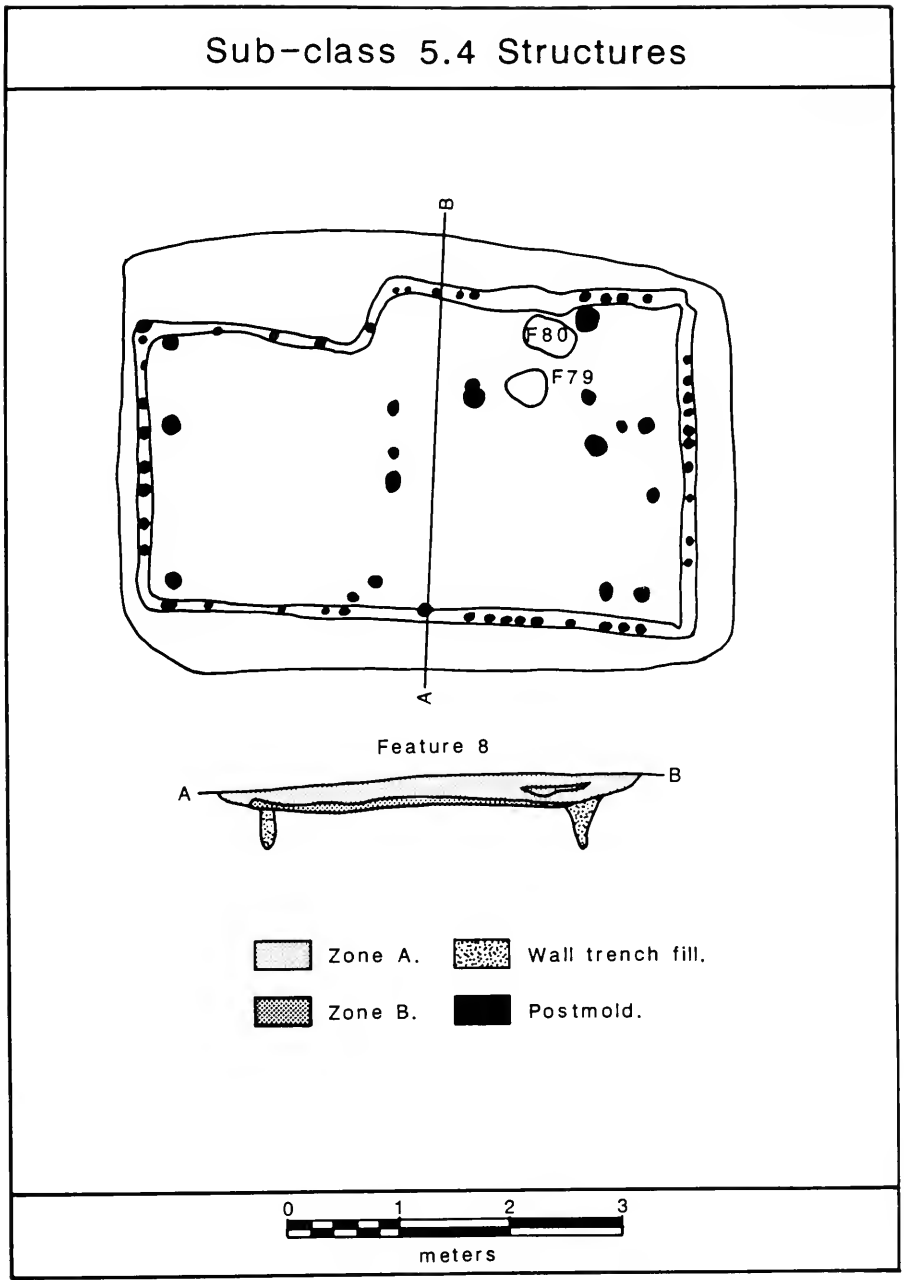


Figure 4.17a. Sub-class 5.4 unusual-shaped wall trench structure.

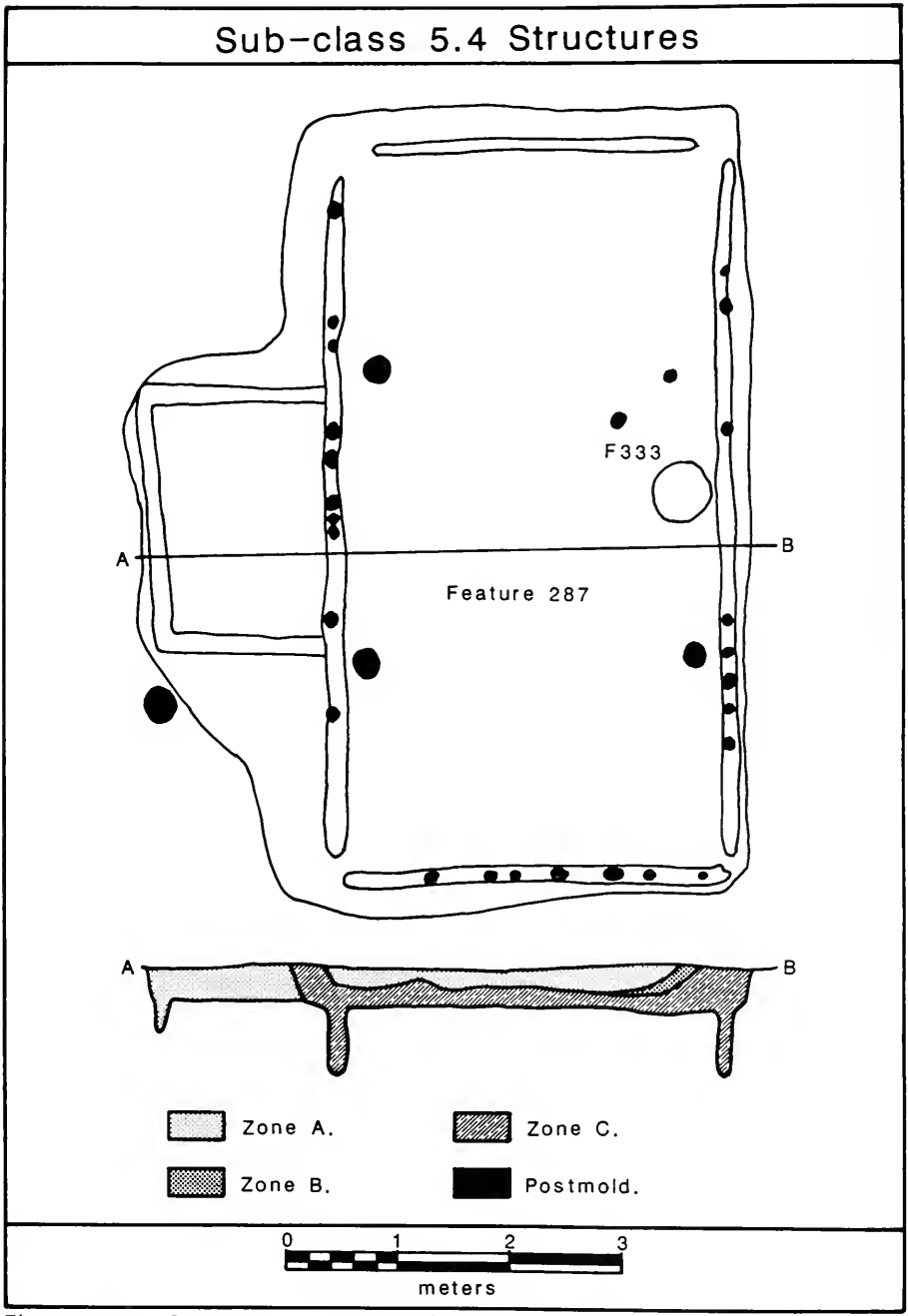


Figure 4.17b. Sub-class 5.4 unusual-shaped wall trench structure.

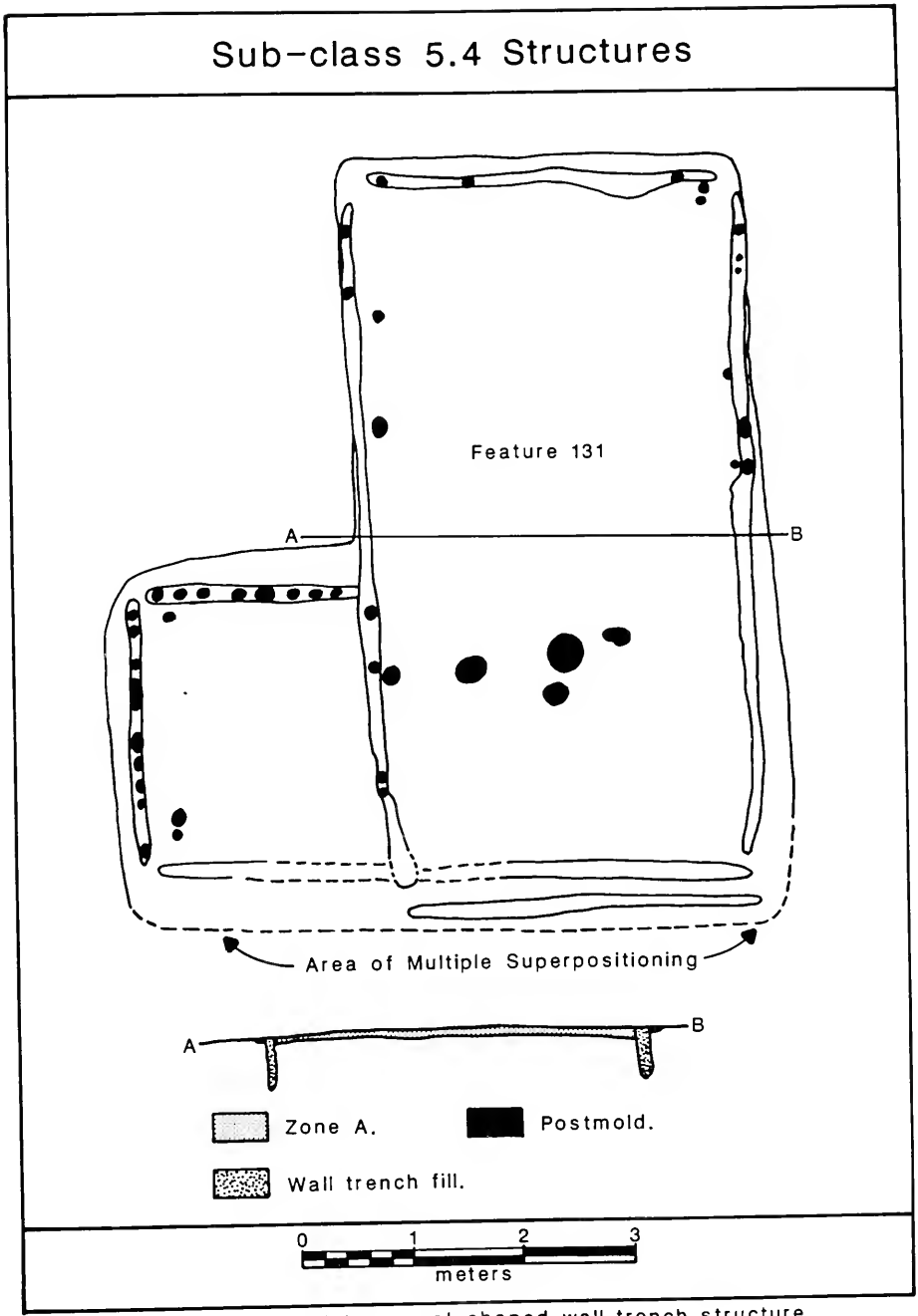


Figure 4.17c. Sub-class 5.4 unusual-shaped wall trench structure.

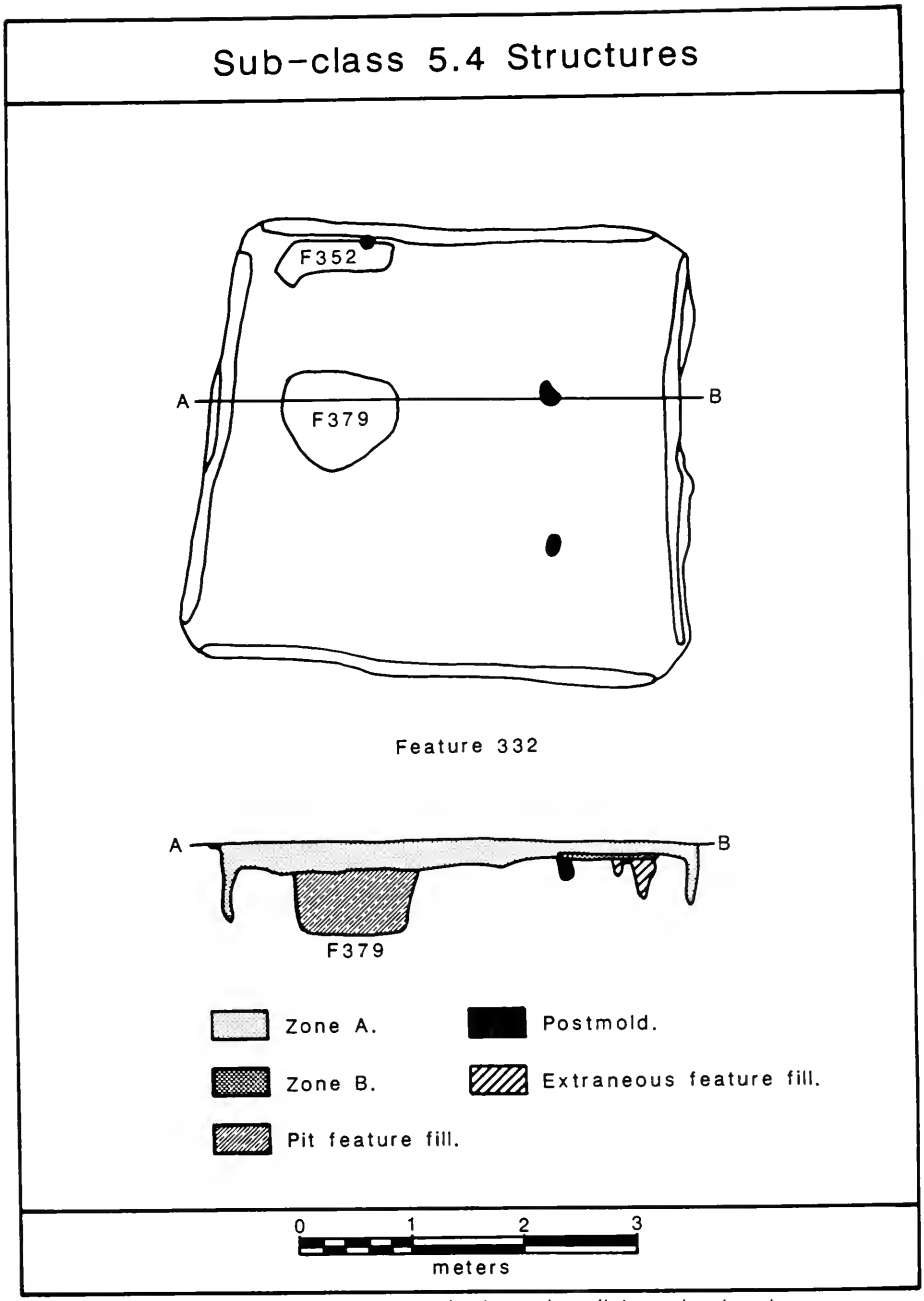


Figure 4.17d. Sub-class 5.4 unusual-shaped wall trench structure.

symbolic forerunner of the arrangement of the four logs (fuel) of the sacred fire used in the Busk or Green Corn ceremony of the late pre-historic and historic periods (Collins 1987:3). This interpretation is consistent with Howard's (1968:88) assertion that modern Busk ceremonies "continue traditions which had their inception in Mississippian times. . . . As such, the Southeastern Green Corn probably reprsents one of the oldest unbroken ceremonial traditions in the New World, and an understanding of its procedures, ritual equipment, and ground plan is basic to the interpretation of Mississippian ceremonial centers."

The other T- and L-shaped structures at the ICT–II also may have been constructed to house special people and/or articles, or for some specialized activity. However, there is insufficient evidence to address such possibilities at this time. Given present information, it is also possible that the unusual forms of these structures resulted from a need to create more internal space.

The last of the Sub-class 5.4 features is the trapezoidal Feature 332. This structure exhibited extremely narrow wall trenches, which slanted toward the interior. The feature appears to be related to Feature 379, a fire-pit containing the carbonized remains of rotten, punky logs. Feature 332 is interpreted as an arbor-framed structure, which may have been used as a hide-smoking or meat-smoking facility. If this interpretation is correct, the feature represents a departure from tradition. Nonetheless, Feature 332 is very similar morphologically to a hide processing facility used by the Crow and described in 1880 by Catlin (1973:45, 46):

> The greater part of these skins, however, go through still another operation afterwards, which gives them a greater value and renders them much more serviceable—that is, the process of smoking. For this, a small hole is dug in the ground and a fire is built in it with rotten wood, which will produce a great quantity of smoke without much blaze; and several small poles of the proper length stuck in the ground around it and drawn and fastened together at the top, around which the skin is wrapped in form of a tent, and generally sewed together at the edges to secure the smoke within it, within this the skins to be smoked are placed, and in this condition the tent will stand a day or so, enclosing the heated smoke.

Feature Class 6—Other Structures (n=51)

Feature Class 6 subsumes all ICT–II wall trench structures and post structures that do not fall into any of the previously defined structure categories. Included are features interpreted as arbors, kitchens, ramadas, a sweatlodge, granaries, screens, fences, racks, and benches, as well as miscellaneous trenches, and post structures of unknown function.

Sub-class 6.1 (n=10)

Sub-class 6.1 includes arbors, kitchens, ramadas, and a sweatlodge (Figure 4.18; Table 4.18). In general, these features represent less solid constructions than Class 5 features. Consequently, functional interpretations are admittedly somewhat arbitrary, based principally on architectural form.

In this classification, arbors (n = 5) are defined as three-sided wall trench structures with an open fourth side. The open side always occurs along the long axis of the structure, and with a single exception (Feature 228), faces away from the plaza. Arbors are associated with household complexes, except for Feature 228, which is situated on the plaza. This suggests that Feature 228 may have marked a public gathering place. It has also been suggested that arbors were the equivalents of summer or fair weather houses (Black 1967:499; Swanton 1946:397-399).

The identification of two kitchens is extremely tentative. In each case, the feature exhibits a combination of wall trench and post construction, is small, and is irregularly shaped. Both features give the appearance of haphazard construction. Generally, careless construction typifies ethnographic examples of detached kitchens. Latorre and Latorre (1976:44, 45) describe the cook houses of the Mexican Kickapoo as follows:

> Unlike the summer and winter houses, which are rebuilt periodically, the cook house is seldom repaired and is allowed to stand until it begins to collapse, at which time it is completely dismantled, the useless material burned and carted away, the usable material

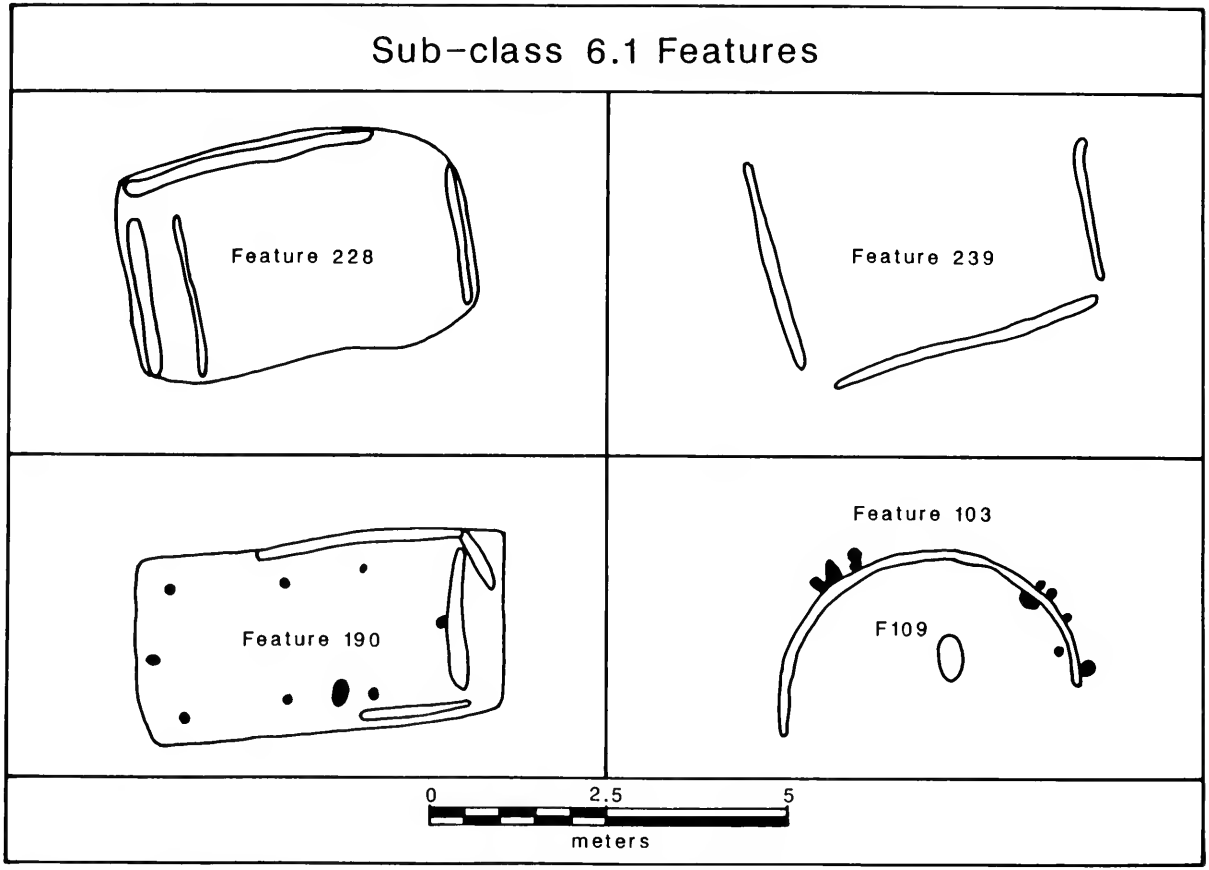


Figure 4.18. Representative examples of Sub-class 6.1 features.

> reserved, and the entire building reconstructed in another location. The cook house [is] twelve feet square and similar in appearance to the summer house . . . the interstices between the sotol scapes that form the walls suffice for ventilation.

Fuson relates that the detached kitchen may have been typical in pre-conquest Panama. He has found that surviving ethnographic examples "are frequently open on three sides, and often on all four. Even if not completely open there is more air space in the walls than in the walls of the main house" (Fuson 1964:194). Features interpreted as kitchens are only represented in Lohmann contexts at the ICT–II. It is possible that the function of the detached kitchen was transferred to the arbor during later occupations.

Three features excavated at the ICT–II are interpreted as ramadas. Ramadas are porch-like additions to domestic structures. These constructions also could have served as kitchens, as is the case among certain traditional groups of central Panama (see Fuson 1964 for an excellent discussion and photographs of modern ramadas). Ramadas were also common among the Mexican Kickapoo: "In front of the summer house is a ramada, or open porch . . . During the summer, most of the activities of the family—sleeping, lounging, sewing, moccasin and basketmaking, and visiting with relatives and friends—are transferred to the ramada" (Latorre and Latorre 1976:44).

Each of the three features believed to represent ramadas at the ICT–II (Features 202, 239, and 310) was constructed differently. Feature 202 had no subsurface foundation, suggesting that it was temporary, or seasonally erected. Feature 239 was built on a wall trench foundation. Feature 310, smaller than the other two, and of post construction may represent some type of structure other than a ramada.

One ICT–II feature (Feature 103) is interpreted as a sweatlodge. The feature exhibited a semicircular wall trench and post foundation and a centrally located internal hearth. It is possible that the structure was originally circular and that half of the foundation was destroyed by later house construction or in the plowzone. However, there have been several features excavated at Cahokia (at both Tracts 15A and 15B) and elsewhere in the American Bottom (Porter 1974:71) that comprised similar unclosed circles. Feature 103 had a radius of about 2 m. This is consistent with other regional examples of circular wall trench and post structures, which are almost universally interpreted as sweatlodges (e.g., Porter 1974; Milner 1984a). Emerson and Milner (1982) and more recently Mehrer (1986:4) have suggested that these circular structures could be "interpreted as nodal points for their respective locally dispersed communities."

Sub-class 6.2 (n=5)

Sub-class 6.2 includes features (Figure 4.19; Table 4.19) interpreted as above-ground storage facilities. They are envisioned as equivalent to the historically described "barbacoas" of the southeastern United States (Swanton 1946:373) and the African "beembal" (David 1971:121). It is assumed that such features were used for the storage of grain (principally corn) and other vegetables.

Numerous ethnographic descriptions of above-ground facilities include Gravier's of 1700: "Their granaries are near their Cabins; they are made like Dove-cotes, built on four large posts 15 or 16 feet high. These are very smooth and well polished, so that mice may not climb them; and thus they protect their corn and squashes—which are even better than those of the Illinois—against those vermin" (Thwaites 1900:133). Carrier (1923:92) relates that: "DeSoto found the Southern Indians storing their maize in 'a barbacoa, which is a house with wooden sides, like a room, raised aloft on four posts, and has a floor of cane'." Bartram (1923:92) noted the presence of both private and public granaries among the southeastern tribes:

> After the feast of the busk is over, and all the grain is ripe, the whole town again assembles, and every man carries off the fruits of his labour, from the part first allotted to him, which he deposits in his own granary; which is individually his own. But previous to their carrying off their crops from the field, there is a large crib or granary, erected in the plantation, which is called the king's crib; and to this each family carries and deposits a certain quantity, according to his ability or inclination, or none at all if he so chooses: this in appearance seems a tribute or revenue to the mico; but in fact is designed for another purpose, i.e., that of a public treasury, supplied by a few and voluntary contributions, and to which every citizen has the right of free equal access, when his own private stores are consumed; to serve as a surplus to fly to for succour; to assist neighboring towns, whose crops may have failed; accommodate strangers, or travellers;

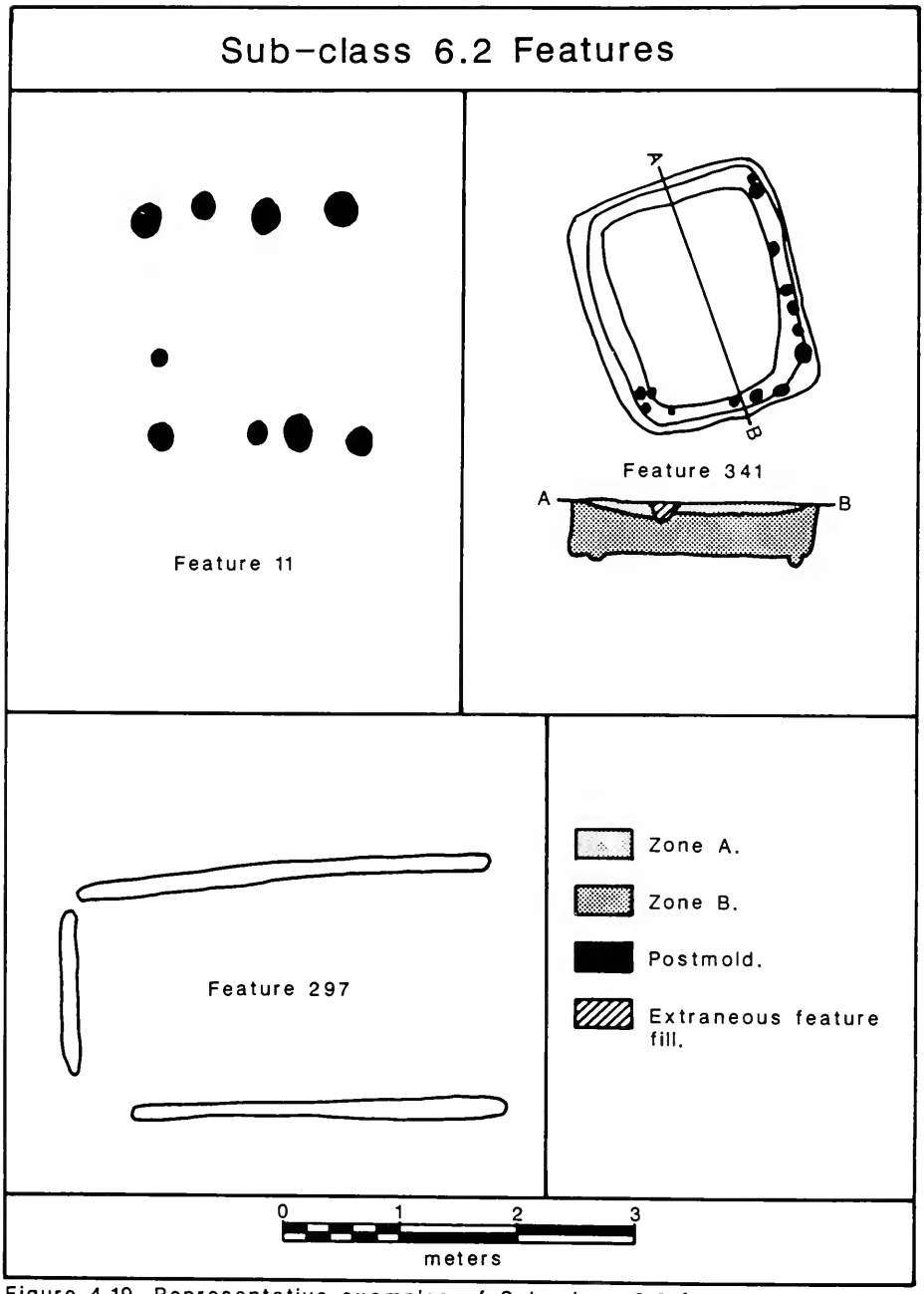


Figure 4.19. Representative examples of Sub-class 6.2 features.

> afford provisions or supplies, when they go forth on hostile expeditions; and for all other exigencies of the state: and this treasure is at the disposal of the king or mico: which is surely a royal attribute, to have an exclusive right and ability in a community to distribute comfort and blessings to the necessitous.

At least one of the Sub-class 6.2 features excavated at the ICT–II (Feature 341) is interpreted as a public granary. This interpretation is based on the location of the feature near the center of a large plaza near two large plaza posts. Most of the other features in this sub-class appear to be associated with specific household compounds.

Some of the Sub-class 6.2 features (e.g., Features 11 and 20) are morphologically similar to drying-scaffolds described in 1881 by Morgan (1965:136, 137):

> In the spaces between the [Mandan] lodges were their drying-scaffolds, one for each lodge, which were nearly as conspicuous as the houses themselves. They were about twenty feet long, twelve feet wide, and seven feet high to the flooring, made of posts set upright, with crosspieces resting in forks. Other poles were then placed longitudinally, upon which was a flooring of willow mats. These scaffolds, mounted with ladders, were used for drying their skins, and also their maize, meat, and vegetables.

Some of the Sub-class 6.2 features at the ICT–II may have served both as drying scaffolds and as barbacoas, specific uses at any given time of the year based on scheduling requirements.

Sub-class 6.3 (n=16)

Sub-class 6.3 includes screens, fences, racks, and benches (Figure 4.20; Table 4.20). The sub-class includes both trench and post structures whose functional interpretation is often based on associations with other features (e.g., benches inside structures constitute beds).

Screens (n=5) were used as wind breaks and for privacy. Proposed wind screens include Features 441 and 459. They were erected on the west sides of two separate structures, possible winter dwellings. Some form of insulation (grass?) may have been inserted between these screens and the west walls of the structures. Features 244, 254, and 388 are all trench features interpreted as privacy screens because of their locations in domestic patio areas. These features could also have served as fences or racks. Such features are common in family compounds of many primitive societies (for photographs of ethnographic examples see Latorre and Latorre 1976; Hayden and Cannon 1983; Fuson 1964).

Feature 314 is tentatively interpreted as a fence. The feature consists of a trench containing large, evenly spaced postmolds. If it is a fence, we cannot determine what it fences off, except to suggest a family compound (see Bartram 1909, or Swanton 1946:Figure 3). The feature might also represent a very solid bench, used for seating while household occupants were working in the patio area. Whatever its function, Feature 314 is anomalous when compared to all other features excavated at the ICT–II.

Racks (n=3) include both wall trench (Features 33, 307) and post (Feature 295) structures. Feature 307 overlay Feature 295, and so probably represents a rebuilding, in different form, of the earlier structure.

Benches (n=7) are trench or post features located inside houses. These benches were used for seating, sleeping, and storage by the occupants of the structures. Swanton (1946:442) described such features in Southeastern Indian habitations: "In almost all of these houses, of every type, a bench extended around the entire interior next to the wall, except at the doorway, though in a few of the longer summer houses such benches or 'beds,' as they were called, seem to have been confined to sections at either end." Le Page Du Pratz (1975:360, 361) related that:

> The beds of the natives are placed round the sides of their huts about a foot and a half from the ground and are formed in this manner. Six forked stakes support two poles, which are crossed by three others, over which canes are laid so close as to form an even surface, and upon these are laid several bear skins, which serve for the bed furniture.

During excavation, interior benches occasionally presented ambiguous associations with specific superimposed structures. For this reason, some Sub-class 6.3 bench features were assigned separate feature

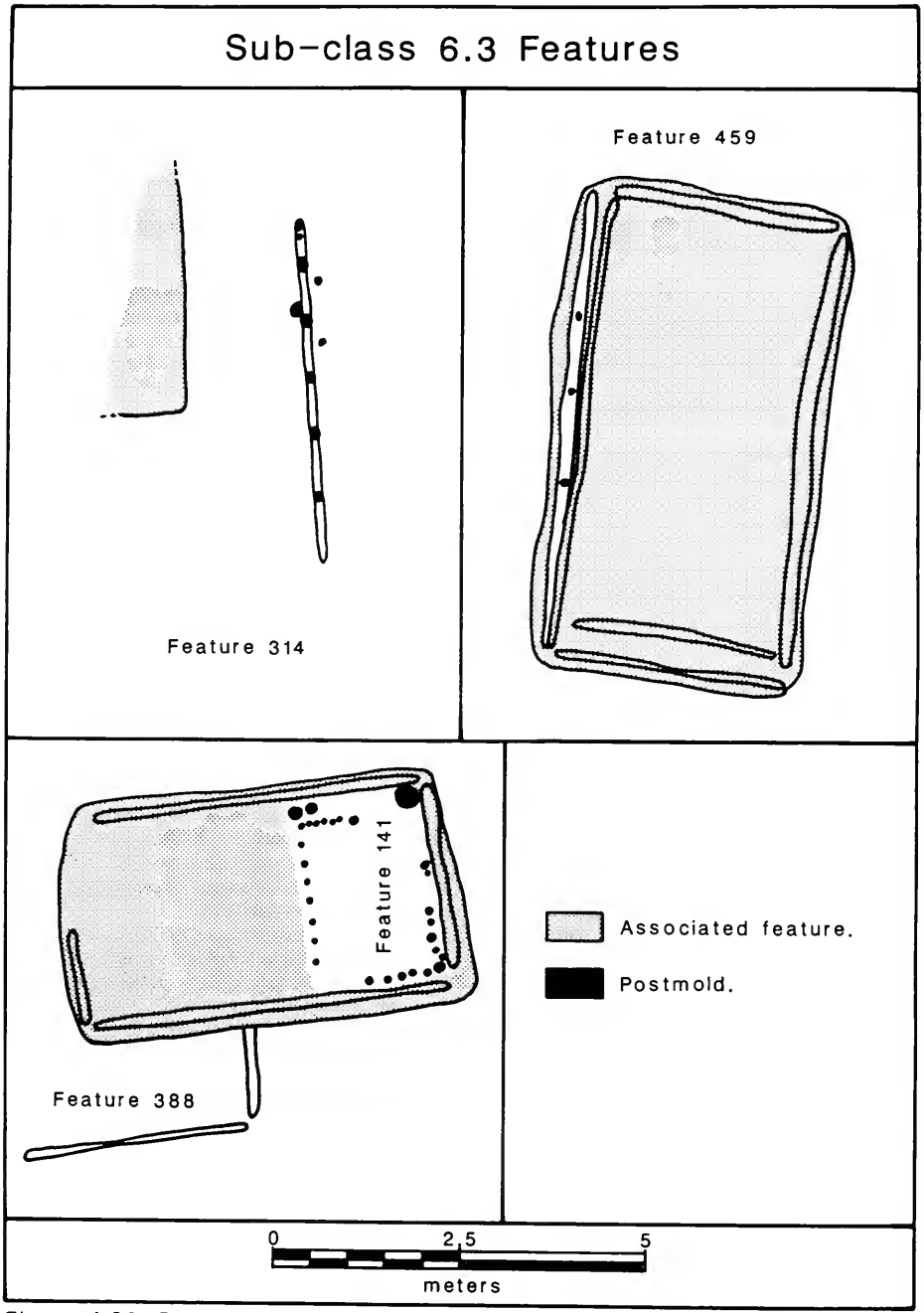


Figure 4.20. Representative examples of Sub-class 6.3 features.

numbers from their associated structures. In clear-cut instances, such features were simply treated as structural members of the encompassing structure and not assigned separate feature numbers.

Sub-class 6.4 (n=18)

Sub-class 6.4 includes miscellaneous trenches (Table 4.21). These are trench features which are similar to structural wall trenches, but which do not relate to defined structures or other features, and therefore defy functional interpretation. Many of these features are probably remnants of structures largely destroyed during aboriginal rebuilding activities. This is especially likely in areas where much rebuilding occurred. In other cases, these miscellaneous trenches may represent racks, benches, screens, or other minor but relatively common community features.

Sub-class 6.5 (n=2)

Sub-class 6.5, "other post structures," includes two features (Figure 4.21; Table 4.22). One of these structures (Feature 453) bears a striking resemblance to the famous "6-house" at Aztalan (Schneider 1969:15). That structure, excavated in 1949, "was circular with walls extended to form screens at the entrance" (Freeman 1986:345). Wittry and Baerreis (1958:68) offered the following interpretation of Aztalan's House 2:

> At the entrance one wall was extended in such a manner as to provide an overlap, partially screening the opening. This opening, however, faced to the northeast and cold winter winds from that direction would enter in full force and rapidly chill the interior. In fact, due to the design of the structure, the winds could enter with such strength as to scatter the fire and endanger the contents of the house and its occupants. To prevent this, and possibly to provide privacy as well, a semicircular screen of posts set in individual holes was built which provided an opening to the east and a turning hallway into the main room.

Feature 453 at the ICT–II was slightly smaller than House 2 at Aztalan and its entrance faced east. To date, this feature has not been definitively identified. Based on general form alone, the feature could represent a sweatlodge with an extended entry, or perhaps a barbacoa.

Feature 347 is similar in shape to Feature 453, but was constructed of very lightweight posts. While its function is unknown, attributes of this feature are more akin to what one might expect for a (drying?) rack rather than a substantial structure, such as a dwelling, sweatlodge, or barbacoa.

Feature Class 7—Other Features (n=33)

Class 7 includes the features excavated at the ICT–II which do not conform to any of the above defined feature classifications. Included are one butchering station, various fill features, large amorphous, midden-filled basins, and other miscellaneous features.

Sub-class 7.1 (n=1)

Sub-class 7.1 includes one feature (Feature 159), recognized as a butchering station. Feature 159 consists of a rectangular basin and a single wall trench rack or bench. The basin contained a relatively high density of small mammal, bird, and fish bones (see Kelly 1988). The bones were covered with layers of yellow sand, presumably imported from open borrow pits. This sand covering probably kept the area from attracting vermin and insects, and also inhibited odors. The rack/bench may have been used to hang or dry meat. The high incidence of squirrel bones and other small bird and mammal bones in the feature fill is interesting in light of the following:

> The youth, under the supervisal of their ancient people, are daily stationed in the fields, and are continually whooping and hallooing, to chase away crows, jackdaws, blackbirds,

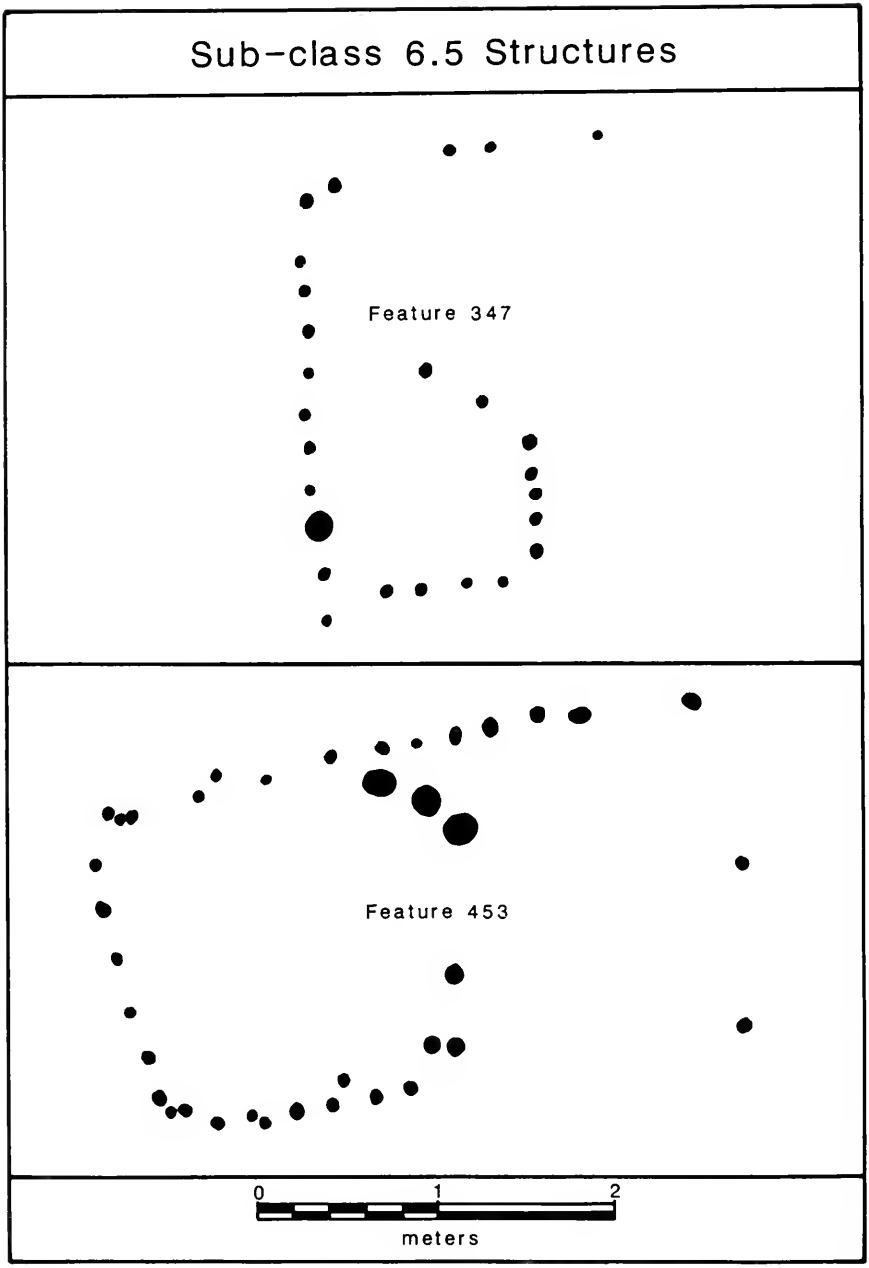


Figure 4.21. Representative examples of Sub-class 6.5 post structures.

> and such predatory animals; and the lads are armed with bows and arrows, and being trained up to it from their early youth, are sure at a mark, and in the course of the day load themselves with squirrels, birds, &c. [Bartram 1955:170].

Kelly (1988) reports that the faunal elements from Feature 159 represent general refuse from either butchering or cooking activities. Lithic evidence recovered from the feature supports the former interpretation. A large quantity of micro-flakes and bifacial tool rejuvenation flakes were recovered from Feature 159 along with the discarded bones (DeMott n.d.). This suggests tool sharpening, probably related to butchering, took place in the immediate vicinity of Feature 159.

Sub-class 7.2 (n=6)

Sub-class 7.2 comprises "fill features" and generally consists of soil anomalies or concentrations of material discretely defined within the fill of house basins (Table 4.23). In most instances, these features should be viewed as material concentrations resulting from single episodes of refuse disposal.

A second type of feature in this sub-class is represented by Feature 355—a cache of large lithic cores. This feature was located in a corner of structural Feature 380 (or 381) and may represent an incidence of what has been termed "provisional discard":

> Large fragments, having some re-use or hindrance potential, usually go through several stages of discard. . . . In the first stage, refuse is placed in what Deal (1983) has called "provisional discard" areas. . . . Within the house, this can be either along walls, in corners, or under beds. Outside, provisional discard often occurs along walls, fences, hedges, or simply in the general toft areas of the house. In a few households, these locations also serve as the ultimate disposal locations for most refuse. Since almost all implements in sedentary communities are curated and represent some significant investment of time, labor, or money, broken artifacts of all kinds tend to be kept around for varying lengths of time in the event that the fragments might still be useful for something. The greater the potential future value, the longer it is kept [Hayden and Cannon 1983:131].

In the case of Feature 355, apparently the still-usable cores were stashed in a corner of the structure, perhaps under a bench, and were lost or abandoned when the structure was vacated. A similar core cache was recovered in a virtually identical situation from Mississippian Household Cluster 1 (Feature 14) at the Robert Schneider Site (Fortier 1985:194).

Sub-class 7.3 (n=9)

Sub-class 7.3 includes various features which are unique at the ICT–II, and so could not be placed in any of the other feature classes or sub-classes (Table 4.24). These features are described individually in the next section of this report.

Sub-class 7.4 (n=17)

Sub-class 7.4 consists of large, amorphous, midden-filled depressions (pits) (Figure 4.22; Table 4.25). All Sub-class 7.4 features exhibit long axis dimensions equal to, or greater than, 2.0 m. The means and standard deviations of selected metric attributes for the sub-class are as follows: length ($x = 4.05$ m; $s = 1.73$); width ($x = 2.76$ m; $s = 1.19$); depth ($x = 0.2$ m; $s = 0.1$); and volume ($x = 1.65$ m^3; $s = 1.7$).

Similar features are common on Mississippian sites in the Midwest and Southeast. At the Orendorf site, such features were interpreted by some investigators as borrows for clay used in house construction (Thomas E. Emerson, personal communication 1985). Others disagree, pointing to the lack of daub associated with structures at the site (Lawrence A. Conrad, personal communication 1987; Powell 1980). Dickens (1976, 1979, 1985) has argued that such "pits should be classed functionally as *borrow pits*" (Dickens 1985:41, emphasis in original). Features of this type:

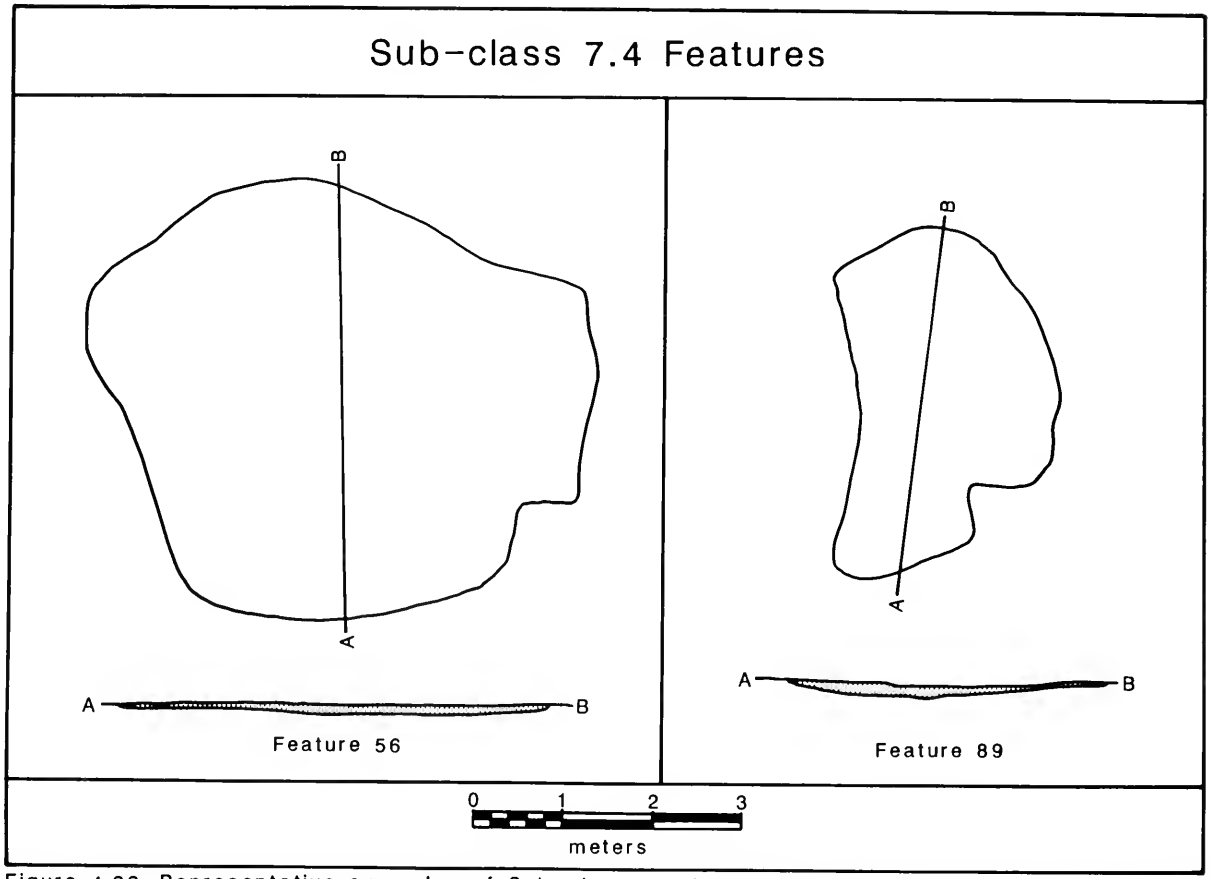


Figure 4.22. Representative examples of Sub-class 7.4 features.

> have a temporal distribution in the Southeast from the Late Woodland to the Historic periods. These pits usually are referred to as "circular basins," "shallow basin-shaped pits," "simple pits," or by some other formal, rather than functional, designation (e.g., Cobb and Faulkner 1978; Dunnell et al. 1971; Wilson 1977). Most such pits probably were dug to acquire clay for construction and repair of buildings. This interpretation is supported somewhat by the fact that this type of pit is rare on sites that predate a permanent-village settlement pattern in the Southeast [Dickens 1985:41].

On many sites, particularly those exhibiting wattle-and-daub construction, these "borrows" were also the locale where the clay and straw plaster was mixed. Fuson (1964:193) illustrates an ethnographic example of the process by which features resembling those of Sub-class 7.4 could have been created. Fuson's photograph shows a group of men mixing straw and mud by stomping them together in a shallow depression. The mixture was then used to plaster the "bohio" or house frame.

Daub at the ICT–II was conspicuously and significantly rare. Table 4.26 lists features excavated at the ICT–II from which daub fragments were recovered. Considering the number of structures excavated, the paucity of daub is truly striking, demanding explanation.

Possibly, structures at the ICT–II were clay-plastered rather than daub-plastered. By definition, daub consists of a mixture of clay and straw, hay, or other roughcast (Gove 1971:577). McIntosh (1974) has demonstrated that evidence of mud wall and daubed wall construction, in the form of preserved chunks of daub, may not be present if the site exists in a reducing environment. In a study of mud wall decay, McIntosh found that in wet environments (not unlike the ICT–II) "the persistent humidity and acidity of the local soils breaks down buried wall material" (McIntosh 1974:165). In a discussion which probably has parallel implications for the ICT–II, McIntosh (1974:166) offered the following:

> Because of the practice of retrieving wood used as wattle, the mounds marking deteriorated wattle-and-daub structures will show few distinct features. However, if the wall had had sufficient time for the clay to become extremely sun-hardened, chunks of daub may be evident (although not found at Begho as the soil is too moist). Under favourable conditions the wall stumps of wattle-and-daub structures may preserve the impressions of the internal poles.

The unfired mud or daub walls of some ICT–II structures (all structures were certainly not plastered) probably disintegrated in the tract's extremely wet, acid environment. This would account for the general absence of daub from excavated features. The presence of daub in some features would then be ascribed to accidents of preservation.

McIntosh provides other observations of potential relevance to Sub-class 7.4 features at the ICT–II. He notes (1974:158, 165, 166) that:

> builders simply collect earth from shallow pits as near to the site of the proposed wall as possible, usually no more than a few metres away. . .[and]. . .The location of shallow pits not clearly used as cisterns (but often subsequently filled with midden material) should make the archaeologist suspect their function for earth collection. The walls constructed of this earth should be quite near.

Sub-class 7.4 initially functioned as clay borrows. Such open depressions within the toft area would obviously have been attractive as refuse receptacles (cf., Hayden and Cannon 1983), and this was the final function of such features at the ICT–II.

Table 4.1. Sub-class 1.1 Pit Features

Indeter. Mississ. n=6	Lohmann n=22	Lohmann-Stirling n=26	Early Stirling n=9	Late Stirling n=3	General Stirling n=37	Moorehead n=6
(50)	(1)	10	(36)	(102)	(19)	(130)
69	(7)	(29)	(37)	(113)	(23)	163
(126)	25	(46)	(43)	319	(31)	(165)
201	28	(49)	(90)		(32)	372
243	(40)	(66)	(157)		(35)	386
(257)	57	(67)	(169)		(38)	(402)
	(58)	(146)	(171)		39	
	61	(148)	(308)		(41)	
	62	(149)	(316)		(42)	
	(63)	(151)			(47)	
	64	(193)			(54)	
	(65)	(195)			(55)	
	(73)	(196)			(60)	
	(91)	(210)			(72)	
	121	(217)			(78)	
	(216)	220			(84)	
	222	(223)			(85)	
	229	235			(86)	
	248	(240)			(87)	
	266	(246)			(88)	
	456	(247)			(93)	
	457	(249)			(98)	
		(299)			(100)	
		(312)			(101)	
		(328)			(104)	
		(335)			(106)	
					(122)	
					(134)	
					(135)	
					137	
					214	
					241	
					(255)	
					(281)	
					311	
					(315)	
					(364)	

key: n = ceramic criteria
(n) = context criteria

Table 4.2. Sub-class 1.2 Pit Features

Lohmann n=2	Early Stirling n=4	Late Stirling n=1	General Stirling n=1	Moorehead n=2
44	16	313	(302)	129
237	(52)			270
	(53)			
	259			

key: n = ceramic criteria
(n) = context criteria

Table 4.3. Sub-class 1.3 Pit Features

Lohmann n=3	Lohmann-Stirling n=1	General Stirling n=3
(4)	(27)	(22)
26		(48)
(206)		(95)

key: n = ceramic criteria
(n) = context criteria

Table 4.4. Sub-class 2.1 Pit Features

Lohmann n=5	Early Stirling n=9	Late Stirling n=5	General Stirling n=1	Moorehead n=14
262	108	105	221	(158)
276	115	107		167
279	170	(114)		184
345	226	124		198
(359)	284	272		200
	323			230
	(327)			232
	340			260
	343			261
				318
				329
				401
				403
				407

n = ceramic criteria
(n) = context criteria

Table 4.5. Sub-class 2.2 Pit Features

Lohmann n=1	Early Stirling n=6	Late Stirling n=9	Moorehead n=4
(298)	(94)	112	256
	263	125	370
	264	160	371
	(271)	203	373
	(291)	(267)	
	(385)	334	
		(354)	
		394	
		422	

key: n = ceramic criteria
(n) = context criteria

Table 4.6. Sub-class 2.3 Pit Features

Lohmann n=6	Early Stirling n=14	Late Stirling n=8	General Stirling n=1	Moorehead n=12
(79)	(96)	(127)	(362)	(140)
(80)	(120)	(152)		147
(300)	(166)	218		268
(325)	(180)	280		(352)
(350)	181	339		(397)
(351)	(182)	(395)		410
	(288)	(461)		(411)
	(292)	(462)		(412)
	(293)			414
	(356)			415
	(360)			416
	(382)			(417)
	(396)			
	(464)			

key: n = ceramic criteria
(n) = context criteria

Table 4.7. Sub-class 3.1 Hearths

Lohmann n=1	Lohmann-Stirling n=1	Early Stirling n=4	Late Stirling n=5	General Stirling n=2	Moorehead n=5
(109)	(194)	(118)	18	(123)	139
		(119)	(110)	(136)	174
		(294)	(117)		(175)
		(420)	(234)		(258)
			(357)		(421)

key: n = ceramic criteria
(n) = context criteria

Table 4.8. Sub-class 3.2 Firepits

Indeter. Mississ. n=1	Lohmann n=7	Lohmann-Stirling n=1	Late Stirling n=2	Moorehead n=4
317	(2)	211	208	(164)
	(5)		(277)	374
	(6)			379
	(9)		(398)	
	15			
	24			
	253			

key: n = ceramic criteria
(n) = context criteria

Table 4.9. Sub-class 3.3 Fire Pits with Posts

Lohmann n=2	Late Stirling n=1
(3)	13
81	

key: n = ceramic criteria
(n) = context criteria

Table 4.10. Sub-class 3.4 Smudge Pits

Lohmann n=1	General Stirling n=7
(82)	(138)
	(142)
	(150)
	(153)
	(172)
	(173)
	(183)

key: n = ceramic criteria
(n) = context criteria

Table 4.11. Sub-class 3.5 Pit Ovens (Type 1) and Roasting/Steaming Facilities (Type 2)

Early Lohmann n=4	Stirling n=2
17 (T1)	*209 (T1)
*209 (T1)	320 (T2)
274 (T1)	
346 (T2)	

* See discussion in text
key: n= ceramic criteria

Table 4.12. Sub-class 4.1 Free Standing Post Features

Indeter. Mississ. n=2	Lohmann n=6	Lohmann-Stirling n=3	Early Stirling n=4	Late Stirling n=4	General Stirling n=5	Moorehead n=1
(21)	145	(45)	(14)	(111)	(34)	(419)
(204)	(289)	(132)	(51)	(219)	(75)	
	(290)	(326)	(238)	(330)	(76)	
	(303)		(245)	(331)	(77)	
	(400)				(191)	
	(404)					

key: n = ceramic criteria
(n) = context criteria

Table 4.13. Sub-class 4.2 Structural Post Features

Lohmann n=2	Lohmann-Stirling n=1	Early Stirling n=4	Late Stirling n=1	General Stirling n=1	Moorehead n=6
(205)	(273)	(116)	(231)	(353)	(363)
(333)		(236)			(376)
		(252)			(377)
		(366)			(378)
					(383)
					(413)

key: (n) = context criteria

Table 4.14. Sub-class 5.1 Rectangular Wall Trench Structures

Lohmann n=10	Early Stirling n=18	Late Stirling n=12	General Stirling n=3
128	(99)	92	(427)
133	(154)	(168)	(428)
(189)	188	177	(429)
192	(212)	178	
265	(215)	199	
282	233	213	
283	285	324	
321	30	(381)	
338	348	390	
342	(349)	391	
	(361)	(430)	
	(380)	(443)	
	409		
	(425)		
	(426)		
	(437)		
	(438)		
	455		

key: n = ceramic criteria
(n) = context criteria

Table 4.15. Sub-class 5.2 Small Rectangular Wall Trench Structures

Lohmann n=2	Lohmann-Stirling n=2	Early Stirling n=9
305	(156)	12
344	(436)	97
		(155)
		186
		286
		304
		(306)
		336
		(393)

key: n = cermic criteria
(n) = context criteria

Table 4.16. Sub-class 5.3 Square or Nearly Square Wall Trench Structures

Early Stirling n=2	Moorehead n=8
(179)	143
207	250
	367
	368
	(369)
	408
	(440)
	(442)

key: n = ceramic criteria
(n) = context criteria

Table 4.17. Sub-class 5.4 Unusual Shaped Wall Trench Structures

Lohmann n=2	Early Stirling n=2	Moorehead n=1
8	131	332
287	387	

key: n = ceramic criteria

Table 4.18. Sub-class 6.1 Arbors (A), Kitchens (K), Ramadas (R), and Sweat Lodges (S)

Lohmann n=4	Early Stirling n=2	Late Stirling n=2	General Stirling n=1	Moorehead n=1
(103)S	30A	202R	365A	239R
190K	228A	418A		
275K				
(310)R				

key: n = ceramic criteria
(n) = context criteria

Table 4.19. Sub-class 6.2 Granaries

Lohmann n=4	General Stirling n=1
(11)	(20)
(297)	
(337)	
(341)	

key: n = ceramic criteria
(n) = context criteria

Table 4.20. Sub-class 6.3 Screens, Fences, Racks and Benches

Lohmann n=2	Early Stirling n=7	Late Stirling n=3	General Stirling n=1	Moorehead n=3
(295)	(141)	(432)	(33)	144
(307)	(224)	(451)		(424)
	(227)	(459)		(441)
	244			
	(254)			
	(314)			
	(388)			

key: n = ceramic criteria
(n) = context criteria

Table 4.21. Sub-class 6.4 Miscellaneous Trenches

Lohmann n=3	Early Stirling n=6	General Stirling n=4	Moorehead n=5
(197)	(375)	(431)	(406)
(358)	(434)	(433)	(445)
(389)	(435)	(449)	(446)
	(458)	(450)	(447)
	(463)		(448)
	(466)		

key: n = ceramic criteria
(n) = context criteria

Table 4.22. Sub-class 6.5 Other Post Structures

Lohmann-Stirling n=1	Early Stirling n=1
(347)	(453)

key: n = ceramic criteria
(n) = context criteria

Table 4.23. Sub-class 7.2 Fill Features

Lohmann n=2	Lohmann-Stirling n=1	Early Stirling n=1	Late Stirling n=1	General Stirling n=1
161 (444)	(384)	(162)	(392)	(355)

key: n = ceramic criteria
(n) = context criteria

Table 4.24. Sub-class 7.3 Miscellaneous Other Features

Lohmann n=4	Early Stirling n=2	Late Stirling n=2	General Stirling n=1
(301)	251	(399)	(176)
322	(269)	(439)	
(405)			
465			

key: n = ceramic criteria
(n) = context criteria

Table 4.25. Sub-class 7.4 Large, Amorphous, Midden-filled Borrows

Lohmann n=11	Lohmann-Stirling n=1	Late Stirling n=2	General Stirling n=3
56	(68)	242	(71)
59		454	89
70			(452)
74			
83			
185			
187			
225			
278			
(296)			
460			

key: n = ceramic criteria
(n) = context criteria

Table 4.26. ICT-II Features Containing Daub

Fea.	Component	Class	Count	Weight/g
4	Lohmann	1.3	1	1.70
12	Early Stirling	5.2	2	4.24
13	Late Stirling	3.3	2	3.93
16	Early Stirling	1.2	5	6.51
81	Lohmann	3.3	1	0.46
92	Late Stirling	5.1	6	7.93
259	Early Stirling	1.2	6	15.39
263	Early Stirling	2.2	1	3.55
282	Lohmann	5.1	3	13.75
287	Lohmann	5.4	15	173.13
291	Early Stirling	2.2	1	18.72
295	Lohmann	6.3	1	3.16
305	Lohmann	5.2	13	199.37
320	Early Stirling	3.5	1	13.43
321	Lohmann	5.1	2	8.64
322	Lohmann	7.3	5	83.57
329	Moorehead	2.1	4	11.81
332	Moorehead	5.4	8	25.42
343	Early Stirling	2.1	1	2.72
344	Lohmann	5.2	3	6.86
346	Lohmann	3.5	6	21.06
348	Early Stirling	5.1	1	215.58
367	Moorehead	5.3	1	49.99
370	Moorehead	2.2	16	47.52
371	Moorehead	2.2	3	54.38
373	Moorehead	2.2	1	7.53
379	Moorehead	3.2	1	1.10
408	Moorehead	5.3	1	0.28
417	Moorehead	2.3	2	2.09
418	Late Stirling	6.1	1	9.01

V. DESCRIPTION OF COMPONENT FEATURE ASSEMBLAGES

> *An archaeological settlement is the physical locale or cluster of locales where the members of a community lived, ensured their subsistence, and pursued their social functions in a delineable time period. . . .if a repetitively occupied site with a great depth of cultural debris can be demonstrated to have been the locus of a single community during one or several occupations in which no significant and meaningful changes in community configuration or structure took place, then we may consider the site to be that of a single archaeological settlement. If, on the other hand, such changes can be shown to have occurred during the continuous deposition of even a thin layer of cultural debris, within even a relatively brief period of time, then we must consider the site to be that of not one but a series of archaeological settlements, each of which must be characterized separately* [Chang 1968:3].

The preceding chapter provided an interpretive baseline for evaluating the various cultural components represented at the ICT–II. This section describes these components as they are reflected by their excavated feature assemblages. Pertinent metric/formal data for certain feature sub-classes are provided for each component. Spatial patterning of feature classes and interrelationships among various feature classes and sub-classes are discussed.

Concepts of Household

Discrete "feature clusters" have been defined for the Lohmann, Early Stirling, Late Stirling, and Moorehead components. Clusters were initially defined by examining ceramic distributions. Clusters suggested by the ceramic data were then plotted against the distribution of structures and features, and were found to be correlated with apparently distinct feature groupings. Special attention was focused on the distribution of domestic structures as key elements in the clusters. Cluster boundaries were determined by examining the spatial proximity of other types of features to separate structure groupings. In most cases, cluster limits were easily determined, groups of features being separated from one another by "empty" space. In other cases, the delineation of cluster boundaries was somewhat more arbitrary.

It can be argued that such clusters are the archaeological reflections of individual households. The spatial relationships and contextual associations of individual features suggest the plausibility of such an interpretation. For this reason, and to provide a coherent framework for data presentation, the following description of feature assemblages is organized by cluster, and explicitly incorporates the premise that discrete clusters reflect prehistoric household activity. Not all readers will find this approach palatable. Those who do not may examine the data presented in the accompanying figures and tables from their own interpretive perspective. Because of the approach we have adopted, a brief discussion of the term "household" provides a useful prelude to assemblage descriptions.

As a unit of archaeological and historic analysis the "household" has come under increasing scrutiny in the last decade (Wilk and Rathje 1982a; Netting, Wilk, and Arnould 1984a). Even so, there has been no consensus concerning the usefulness, or even the definition, of the concept.

Anthropologists who study ethnographic or historic households normally emphasize the distinction between the household and the family. According to Netting et al. (1984b:xx), "While both households and families are culturally defined, the former are task-oriented residence units and the latter are conceived of as kinship groupings that need not be localized." Definitions of the household can be simple, as in the following: "The household in any society, I suggest, is that social group larger than the individual that does not fail to control for its members all those resources that any (adult) member could expect to control for himself (Hammel 1984:41). Some anthropological definitions are more convoluted:

> The term *household* must be defined as precisely as possible since the domestic group is not one thing but several. That is to say, that domestic groups, like other conceptually concrete social arrangements, are informed by a number of analytically distinct cultural principles. It is for this reason Gray (1964:4) concluded that "the concept of 'family' as now employed in social anthropology cannot be encompassed in a simple definition" but

> must be regarded instead as a "nexus of certain processes." . . . therefore, the familial dimension of the domestic group is distinguished from the household dimension. The former is defined by the origin of the links between its members, links that have their source in culturally defined relations of birth, adoption, and marriage, regardless of whether those who are so linked live together or engage in any shared tasks. The household dimension of the domestic group, on the contrary, is defined by shared tasks of production and/or consumption, regardless of whether its members are linked by kinship or marriage or are coresident [Carter 1984:44-5].

In general, households can be defined as domestic groups that often (but do not necessarily) live together, eat together, work together, share child rearing, and other domestic activities (Wilk 1984:223). Wilk and Netting (1984:5) equate households with activity groups interacting in a series of spheres that most often include production, distribution, transmission, reproduction, and coresidence.

Many view "archaeological households" as distinct from ethnographic or historic households. "Archaeologists do not excavate households; they find the material remains of dwellings" (Wilk and Rathje 1982b:620). Winter (1972, 1974, 1976) was among the first to recognize an archaeological household when he proposed the concept of the "household cluster" to explain the recurrent grouping of certain features at sites in southern Mexico. He noted:

> The distinction between "household cluster" and "household" should be stressed. A household cluster consists of archeological remains, while a household consists of a group of people who interact and perform certain activities. Through analysis of the archeological data, we can reconstruct the composition of prehistoric household, compare the activities carried out by household members, and study the relations between different households [1976:25].

In the American Midwest, a concept analogous to Winter's household cluster was adopted by Binford et al. (1970) in the Hatchery West site analysis. More recently, similar ideas have been applied to archaeological manifestations in the American Bottom (Emerson and Milner 1982; Milner et al. 1984) and elsewhere in the Midwest (O'Brien and Warren 1982).

Pauketat (1986) has recently pointed to the confusion in the archaeological literature of the American Bottom as to what constitutes a household. "The term household has been used to refer to both household clusters (Milner et al. 1984:165 (sic); cf. Finney 1985; Fortier 1985), and individual structures (Fortier 1985:183)" [Pauketat 1986:37–9]. Such inconsistency recalls Hammel's (1982:40) notion of "a special part of Hades occupied by scientists whose measuring rods expand and contract in unpredictable ways while their users argue interminably about their observations."

Following the lead of Wilk and Rathje (1982b), Pauketat (1986:39) suggests that "the domestic group, residential group, or household is the social unit about which inferences are made. It is not a building." Wilk and Rathje (1982b:618) argue that this distinction is more than semantic:

> Happily for archaeologists, housholds live in and use material culture. In fact, material culture can be thought of as a shell whose form reflects the demographic shape and the activities of households. But archaeologists excavate the dwellings and domestic artifacts, not the social units. We have to infer dwelling units from the material record; then we must infer households from the dwelling units.

Component Descriptions

Late Archaic Component Features (n=2)

Excavation of the Archaic Block resulted in the location two Sub-class 1.1 pits, Features 2000 and 2001 (Table 5.1). No artifacts were recovered from either. Both features consisted of small concentrations of charcoal flecks, similar to many of the Late Archaic features excavated during the 1982 ICT excavations (Nassaney et al. 1983). Examination of processed flotation samples supports the interpretation that the

charcoal is of cultural origin. The features contained wood and bark charcoal, hickory nut shell, seeds, and fish and snake bones.

Identification of Features 2001 and 2002 as Late Archaic is based on their relative geomorphological context. Features 2001 and 2002 were associated with the same buried surface that yielded a high density of Late Archaic features during the 1982 investigation at the nearby ICT-I. Nassaney et al. (1983:109) report that:

> The Late Archaic occupation of the Spring Lake point bar ridge [which includes the feature-bearing buried A horizons at both the ICT-I and ICT-II] has been dated to ca. 1200 B.C. (uncorrected), based on the tightly clustered radiocarbon dates. The radiocarbon dates place the Late Archaic occupation slightly earlier than the range of currently available dates for the Prairie Lake complex (ca. 1000–600 B.C.) (Kelly et al. 1979). ICT dates more closely correspond to those obtained for the Labras Lake complex (ca. 1900–1160 B.C.) (Phillips et al. 1980). In light of the relatively few dates currently available for these cultural manifestations and the uncertain nature of the Labras Lake complex, their chronological boundaries should be viewed cautiously. Diagnostic hafted bifaces recovered from the ICT clearly group the occupation with the Prairie Lake complex. In view of these data, the ICT Late Archaic component is considered to represent a relatively early Prairie Lake occupation.

There was some interpretive disagreement among the authors of the 1983 ICT report as to the nature of the Late Archaic occupation. On the basis of archaeobotanical evidence, Lopinot (Nassaney et al. 1983:107) envisioned "a diverse assortment of subsistence activities, more typical of a generalized base camp than a specialized extractive camp." Others concluded "that the best interpretation of the Cahokia Late Archaic remains is still one of a series of intermittent, relatively short-duration occupations during different seasons of the year" (Nassaney et al. 1983:113). The data from the ICT–II Archaic Block are insufficient to support either postulate.

Indeterminate Mississippian Component Features (n=9)

Many ICT–II features could not be assigned to a single Mississippian component association. Features lacking ceramics, and located in ambiguous contexts suggesting associations with multiple components, were assigned to a "component" labeled Indeterminate Mississippian. Nine features fell into this category (Figure 5.1; Table 5.2).

Six of the nine were Sub-class 1.1 pits (Table 5.3). All but one were located in areas suggesting association with either the Lohmann or Stirling occupation. The sixth, Feature 69, was located near Lohmann, Stirling, and Moorehead structures, making its affiliation even more ambiguous. The remaining three features in the Indeterminate group include one Sub-class 3.2 firepit (Table 5.4) and two Sub-class 4.1 (patio) postmolds (Table 5.5). These features could be related to any of the Lohmann, Stirling, or Moorehead feature groups located in their vicinity.

Lohmann Component Features (n=107)

The Lohmann phase is represented by each of the seven major feature classes and all but three of the sub-classes previously defined (Figure 5.2; Table 5.6). Sub-class 2.4 burial pits, Sub-class 5.3 square wall trench structures, and Sub-class 6.5 post structures are the only sub-classes not represented in the Lohmann phase feature assemblage.

Three spatially discrete clusters of features can be defined within the area of Lohmann occupation (Figure 5.3). Of the 107 features identified as belonging to this component, 77 are contained within these clusters, while 29 fall outside. The following discussion focuses on each feature cluster and its constituent elements. Non-cluster features are then briefly considered.

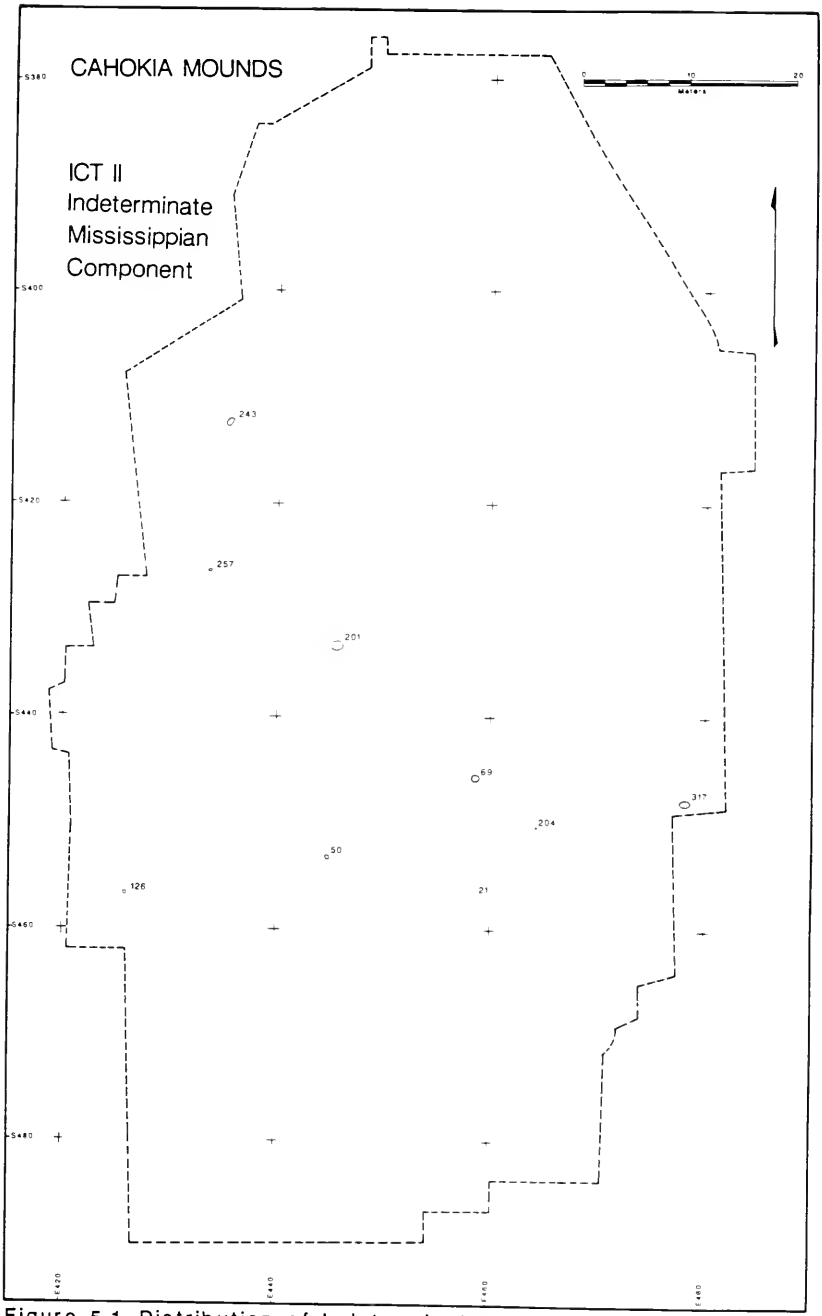


Figure 5.1. Distribution of Indeterminate Mississippian features.

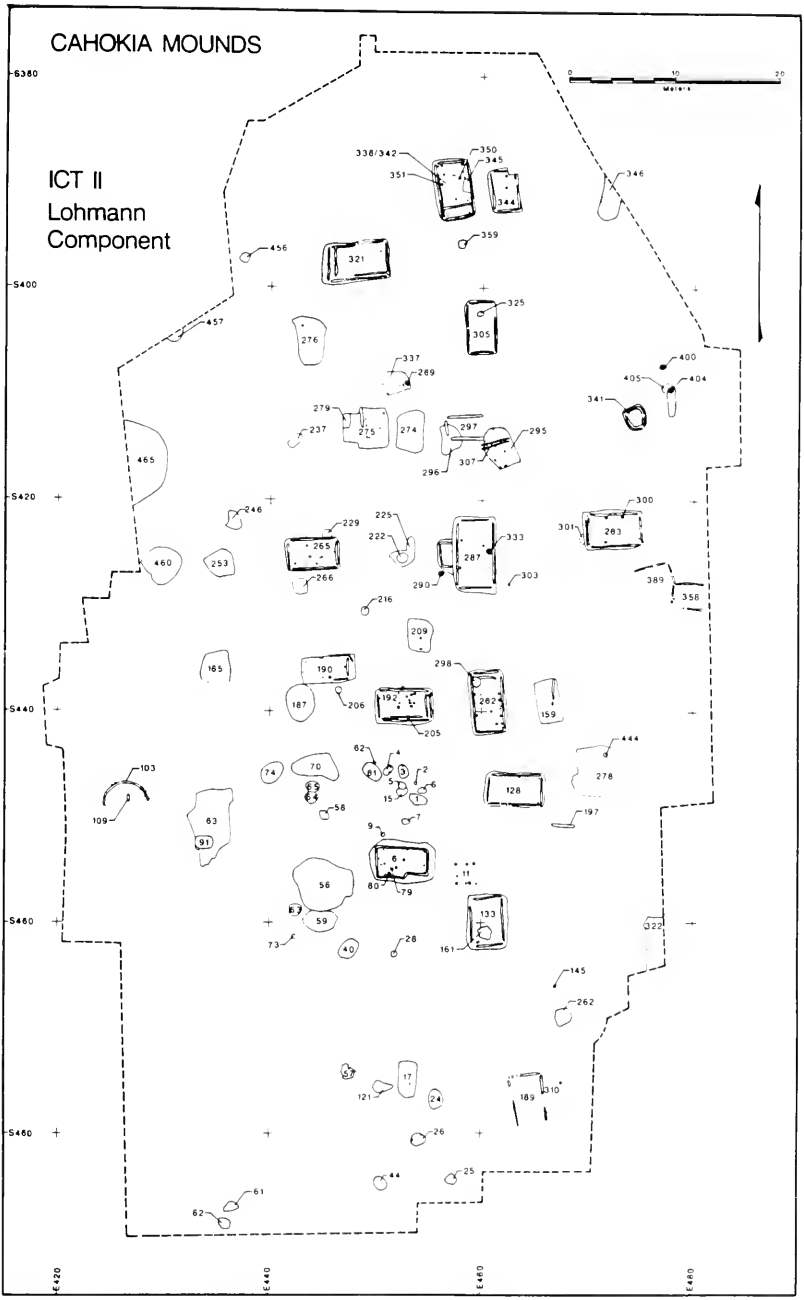


Figure 5.2. Distribution of Lohmann component features.

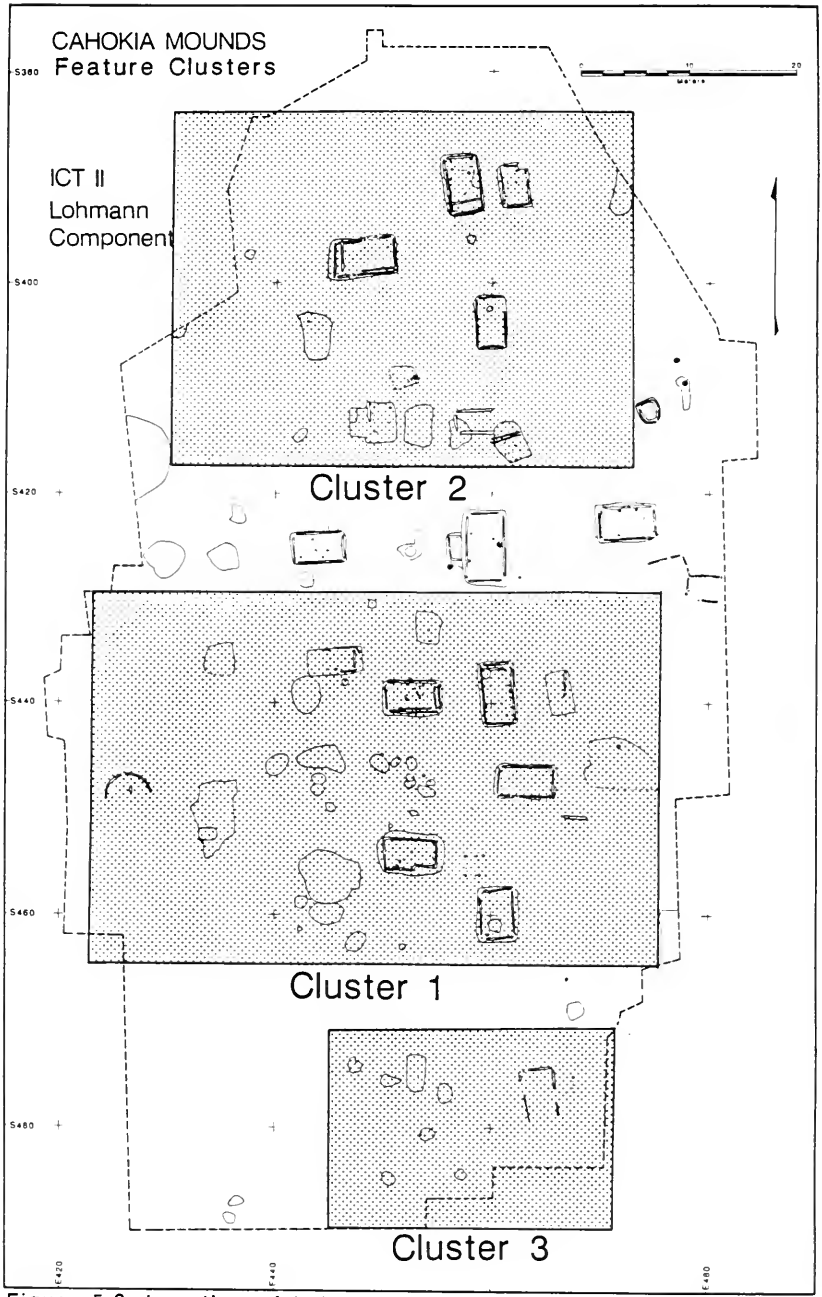


Figure 5.3. Location of Lohmann component Feature Clusters 1-3.

Feature Cluster 1

Feature Cluster 1 is centrally located within the ICT II tract, where it is bounded by grid coordiantes S430–465 and E424–480. It is the most extensive of the three clusters in area, and it contains the greatest number of features of the three (46). Cluster 1 features are distributed in a pattern which can be easily interpreted as reflecting prehistoric household activity. At the center of the cluster are a number of fire-related features; these are surrounded by a series of house structures; along the cluster periphery are auxiliary storage and processing facilities and borrow areas (Figure 5.4).

Class 1 Features—Pits of Indeterminate Function

Within Cluster 1, shallow to medium-depth pits were the most numerous features (13 out of 45). These pits were distributed among other types of features, frequently in close proximity. In general, they tended to concentrate toward the interior of the cluster, rather than along the peripheries.

Eleven of the Class 1 features represent Subclass 1.1, pits containing homogeneous, naturally or incidentally-introduced fill. The remaining two are examples of Subclass 1.3 shallow basins with associated postmolds. The context of each of these two features suggests a cooking function: Feature 206 was located next to a proposed kitchen structure (Feature 190), while Feature 4 was located in the midst of several fire-related pits.

Class 2 Features—Cache/Storage Facilities

Three Class 2 cache pits were identified in Cluster 1. All were located inside structures. Of the three, one (Feature 298) is a Sub-class 2.2 large storage facility. Located in the northwest corner of Structure 282, this pit is unique among Lohmann features at the ICT–II, and unusual among Lohmann feature assemblages in general. Large interior cache-storage pits are considered a hallmark of the later Stirling phase (Mehrer 1982; Milner et al. 1984). Feature 298 (as well as Structure 282 and other Cluster 1 features) may, therefore, date to relatively late Lohmann times.

The remaining Class 2 features both represent Sub-class 2.3 small cache pits. They both occur in the same structure (Feature 8), where they are located near the south wall.

Class 3 Features—Fire-Related Features

Ten fire-related features were found within Cluster 1. Eight of these were tightly grouped near the cluster center. Within this central group, five features (Nos. 2, 5, 6, 9, and 15) are Sub-class 3.2 fire-pits; two are Sub-class 3.3 firepits with associated postmolds; one is a Sub-class 3.4 smudge pit. This group is bounded by structures on the north, east and south, and appears to represent an activity area, probably a communal cooking area.

The two remaining Class 3 features in Cluster 1 are located along the cluster edges. Feature 109 is a Sub-class 3.1 hearth/firepit partially enclosed by Structure 103 at the extreme western margin of the cluster. Presumably this feature, a hearth superimposed upon a filled firepit, was related functionally to the structure, a semicircular building that sits apart from other cluster structures and is thought to have been a sweatlodge. However, it is also possible that the hearth postdates the Lohmann sweatlodge and is contemporaneous with one of a number of Stirling phase structures, within whose walls it is situated.

Feature 209 is a Sub-class 3.5 Type 1 pit oven located near the north edge of the cluster. This is one of three such features identified as belonging to the Lohmann component. Significantly, each appears associated with a household cluster, and each is located along a line approximating the E453 baseline. Such patterning hints at a standardized layout for Lohmann household structures and facilities.

Class 4 Features—Postmolds & Post Pits

A single post pit was identified within Lohmann Cluster 1. Feature 205 is a Sub-class 4.2 structural post, associated with Feature 192. The pit is situated along the southern wall of the structure at

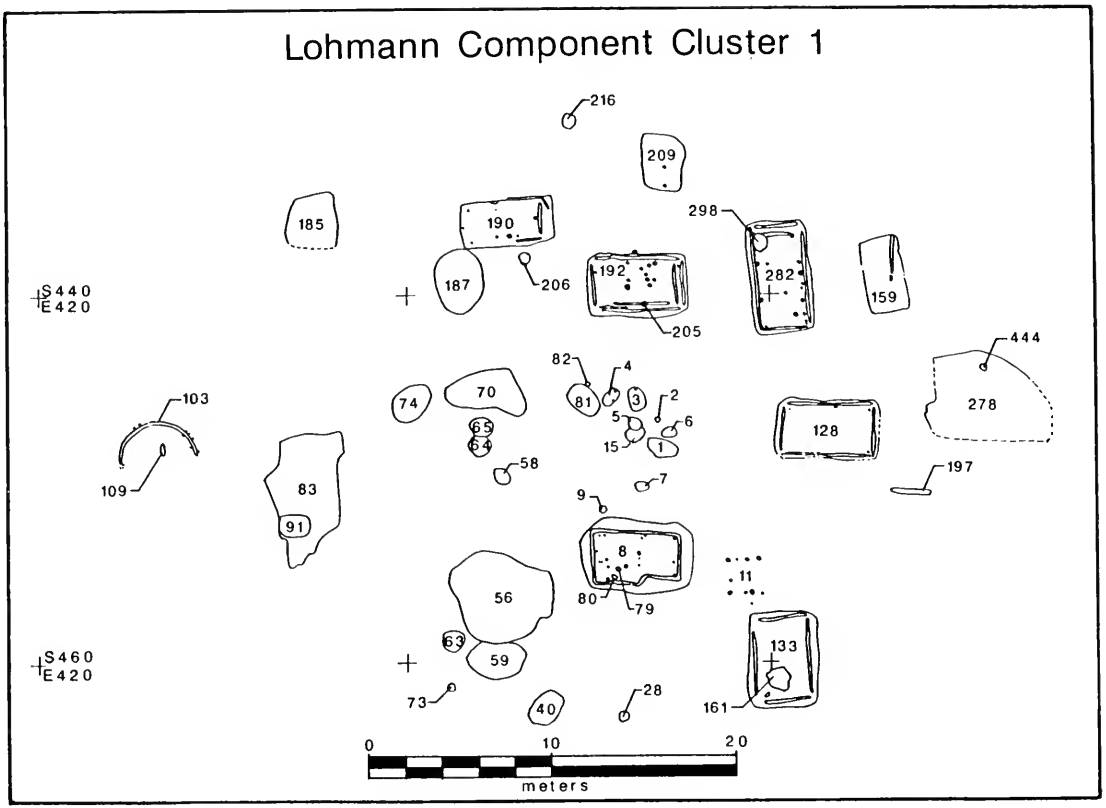


Figure 5.4. Lohmann Feature Cluster 1.

the approximate midpoint. It may mark the location of a step post, which facilitated entry into the structure's deep basin.

Class 5—Enclosed Wall Trench Structures

Cluster 1 contains five Class 5 enclosed wall trench structures. Of these, four are Sub-class 5.1 rectangular structures with floor areas of greater than 11 m^2 (Features 128, 133, 192, 282). These structures are located in the eastern portion of the cluster, where they are loosely arranged to the north, east, and south of the previously described group of firepits. The alignment of these structures suggests conformity to a more comprehensive community plan, specifically the theoretical Cahokia Grid or Axis proposed by Fowler (1969); their long axes are oriented toward the cardinal directions, and they occupy the same north-south trending "corridor" which contains analogous Lohmann structures in other clusters. These structures share similar dimensions, and do not appear to have undergone substantial renovation over time.

A single example of Sub-class 5.4 unusually shaped structures is found in Lohmann Cluster 1. Structure 8 is located just south of the cluster's central group of firepits. A basically rectangular structure, it deserves its unusual categorization because of a "jog" in the southern wall. The wall segment where the jog occurs may mark the entryway to the structure. Why the wall takes this particular form is unknown.

Feature Class 6—Other Structures

Four representatives of this feature class occur in Cluster 1. Two features are examples of Sub-class 6.1 auxiliary domestic structures, while one represents Sub-class 6.2 above-ground storage facilities, and one is a Sub-class 6.4 miscellaneous trench.

Feature 190, located toward the northwest corner of the cluster, may have served as a kitchen.

Feature 103 is a semicircular wall trench and post structure located at the extreme western edge of the cluster. Along the exterior edge of the wall trench a series of post molds were defined. This building could have functioned as a sweatlodge. Porter (1974) found similar structures on the west side of the Mitchell site community. However, he points out the proximity of water to those locations was probably the critical factor in structure placement. Though Feature 103 occupied a low area in the ICT–II tract, there appears to have been no natural water source in the immediate vicinity. A borrow area west of the ICT–II excavation block might have satisfied the water requirement—if it was extant and collecting runoff during the Lohmann occupation.

Features similar to Structure 103 have been excavated elsewhere at Cahokia (Wittry and Vogel 1962; O'Brien 1972) and at other Mississippian sites in the American Bottom (e.g., Porter 1974; Milner 1984a; Mehrer 1982). Many contained central fire-pits. The location of Feature 109 within Feature 103 is consistent with this pattern. Its architectural form and relative isolation suggest that Feature 103 served as the bath house for the inhabitants of Lohmann Cluster 1 structures. Similar structures were not identified in the patterns of the other defined Lohmann feature clusters, but could exist outside the excavation block.

Feature 11, the lone example of Sub-class 6.2, was located in the southeastern portion of the cluster, between two rectangular wall trench structures. The feature represents a structure composed of very large posts comprising three sides of a quadrangle. Size and location of this structure suggest its use as a household granary.

The single Sub-class 6.4 feature is an isolated trench located near the eastern limit of Cluster 1, near one of the cluster's rectangular habitation units. It may represent a rack.

Feature Class 7—Other Features

Ten Class 7 features are found within the boundaries of Lohmann Cluster 1. Of these, one (159) is a Sub-class 7.1 butchering station, one (161) is a Sub-class 7.2 fill feature, and eight are Sub-class 7.4 large midden-filled depressions. Overall, the Class 7 features tend to be located toward the edges of the cluster rather than near the center.

Feature 159, representing Sub-class 7.1, is unique among Lohmann features at the ICT–II tract. Located along the northeastern edge of Cluster 1, it is believed to have been a butchering station. Several pieces of evidence support this interpretation. For instance, the feature fill contained animal remains

representing a variety of species (Kelly 1988), chert tools and debitage suggestive of butchering and tool maintenance activities, and obvious layering of fresh sand over sequential bone (and by inference viscera) deposits. Also, the feature's location on the east side of the cluster would have situated it downwind from prevailing west winds. Feature 159 may have had a prior use-life as some form of small (Sub-class 5.2) structure.

The single Sub-class 7.2 fill feature in Cluster 1, Feature 161, consisted of a shallow depression in the fill of the Structure 133 basin. The feature was primarily distinguished as a soil anomaly. Its function or purpose is unknown.

The eight Sub-class 7.4 features are all interpreted as clay borrows. Clay removed from these pits was probably used in construction. Cluster 1 contained the greatest number of Lohmann phase clay borrows, a distinction that may reflect more than simple coincidence. Structures in this cluster occupied significantly lower ground than structures in other Lohmann clusters. Perhaps it was necessary to pack clay around the bases of the Cluster 1 structures to prevent flooding of their deep basins during heavy rains. These borrows eventually filled with midden and naturally accreted sediments.

Feature Cluster 2

Lohmann Cluster 2 is located north of Cluster 1 in an area roughly bounded by grid coordinates S385–420 and E440–470. Smaller in areal extent than Cluster 1, Cluster 2 has fewer features (24) and fewer types of features (12) than its southern neighbor. Assuming Cluster 2 to be contained more or less completely within the ICT–II project boundaries, the smaller, less complex nature of the assemblage might indicate a less mature household than that represented by Cluster 1, or a household that had atrophied (Figure 5.5).

Class 1 Features—Pits of Indeterminate Function

Three Class 1 features are contained within Lohmann Cluster 2. This low frequency contrasts sharply with the abundance of Class 1 features in Cluster 1. All three features are located along the western periphery of the cluster, where they are spatially isolated from one another as well as from other feature types. This, again, is in contrast to Cluster 1, where Class 1 features occur in and around other feature types. Two of the Cluster 2 features are examples of Sub-class 1.1 pits with homogeneous single-zone fill, while the third is a Sub-class 1.2 pit with multiple zoned fill.

Class 2 Features— Cache/Storage Facilities

Class 2 Features outnumber all other feature types in Cluster 2, where they are more numerous than in the other Lohmann clusters. As might be expected of storage pits, these features are physically integrated into the feature assemblage representing the household. Of the seven Class 2 features present, four represent Sub-class 2.1 exterior storage pits and three are Sub-class 2.2 interior cache pits.

Of the four exterior pits, one is noteworthy for its size. Feature 276, located toward the western end of the cluster, had a capacity of 5.6 m^3 and was the largest storage facility excavated at the ICT–II. Its unusually large size and somewhat irregular shape suggest storage of bulk items. The feature was probably a facility used by the entire household or even by a larger segment of the community.

The remaining Sub-class 2.1 features have smaller storage capacities and may be better viewed as cache pits. Feature 359 is centrally located among three Lohmann structures toward the northern end of the cluster. Features 345 and 279, located near the northern and southern ends of the cluster respectively, share two interesting traits. Both are rectangular in planview, and both were superimposed on other Lohmann features. Feature 279 was superimposed on the basin of Feature 275, thought to have been a kitchen. Ceramic evidence (Holley 1989), indicates this structure to be among the earliest at the tract. The inference is that Feature 275 was abandoned prior to the excavation of Feature 279. Feature 345 was superimposed on the basin and east wall trenches of structural Features 338/342. Clearly, these structures were abandoned prior to the excavation of Feature 345. There are at least two possible explanations for the superpositioning. Later Lohmann inhabitants of the tract may have preferred to excavate in previously disturbed soil (a preference which any of the ICT–II field personnel would understand fully). Alternatively,

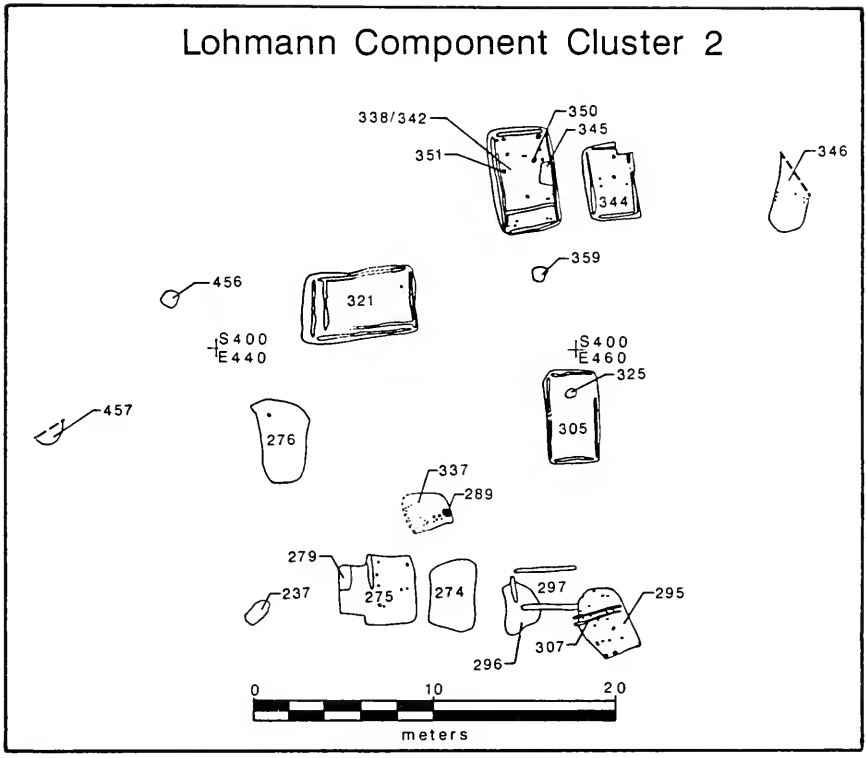


Figure 5.5. Lohmann Feature Cluster 2.

the inhabitants may have been trying purposely to camouflage their caches in the disturbed environments of previously abandoned structures. The practice of concealing cache pits was common to many historic Native American groups (Strachey 1849; Hagen 1958; Will and Hyde 1964) and no doubt also occurred during late prehistoric times.

The three interior cache pits were all associated with rectangular enclosed wall trench structures. Features 350 and 351 were both located inside Structure 338/342, at the north edge of the cluster, where they occupied positions near the structure's walls. Feature 325, inside Structure 305, was situated more toward the center of the house.

Class 3 Features—Fire-Related Features

Only two fire-related features occurred in Lohmann Cluster 2. Again, this contrasts with the relative abundance of such features in Cluster 1. Both of the Cluster 2 features are Sub-class 3.5 large cooking facilities.

Feature 274 is a Type 1 cooking facility located along the southern cluster boundary, where it sits among a number of structural and other features. Like the Type 1 feature (209) described in Cluster 1, Feature 274 is situated along a line approximating the E453 baseline.

Feature 346 is a Type 2 cooking facility, the only example of this feature variant in the Lohmann assemblage. Located in the extreme northeast corner of the cluster and excavation block, this feature is interpreted as a roasting pit. The feature displayed a pattern of postmolds suggesting gridiron or rack supports. The abundance of waterfowl bones in the fill indicates that the facility was in use during the spring or fall (Kelly 1988). The near-absence of other species further suggests specialized, rather than general-purpose use. Recovery of numerous wing bones suggests that the wings were removed from the birds prior to or during cooking. Kelly (1988) has suggested that the wings may have been removed prior to cooking so that the primary wing feathers could be recovered. Presumably these feathers were valued for decoration and/or use in arrow fletching (see Siegel and Roe 1986).

Class 4 Features—Postmolds & Post Pits

A single Class 4 feature was identified in Cluster 2. Feature 289 represents Sub-class 4.1, marking the location of a free-standing post. Its proximity to Structural feature 337 in the southern part of the cluster suggests a possible relationship to that structure. Morgan (1965) has described the ladders used by Plains tribes to mount their drying scaffolds. The post represented by Feature 289 may have served such a function, providing a stationary ladder facilitating storage and removal of commodities from Feature 337.

Class 5 Features—Enclosed Wall Trench Structures

Five Class 5 structures were defined within the limits of Lohmann Cluster 2. All are located in the north central part of the cluster, where they are loosely arranged on the north, west, and south sides of a relatively open quadrangle. Like their counterparts in Cluster 1, the axes of these structures are oriented to the cardinal directions. Also like the Cluster 1 structures, these Class 5 features occupy an area more or less focused along the E460 baseline.

Three of the Cluster 2 features are Sub-class 5.1 rectangular structures with floor areas greater than 11 m^2. Of the three, two are merely earlier and later versions of the same structure, with Feature 342 replacing Feature 338. Such an occurrance is rare in the Lohmann structural assemblage. The paucity of evidence for rebuilding may suggest that ICT–II Lohmann structures were erected late in the Lohmann sequence. Alternatively, the evidence may indicate that these structures were well-built and occupied for long periods of time.

Two Sub-class 5.2 small, rectangular wall trench structures were located in Lohmann Feature Cluster 2 (Table 5.27). Feature 305 had an area of 10.8 m^2, just below the 11 m^2 cutoff that defines Sub-class 5.1. Both its position in the feature pattern and its formal characteristics suggest that Feature 305 is not functionally distinct from Sub-class 5.1 features. The inclusion of this structure in Sub-class 5.2 should probably be viewed as an arbitrary classificatory distinction rather than a true formal/functional distinction.

Feature 344, on the other hand, probably does represent a functionally distinct feature type. Its proximity to Feature(s) 338/342 is noteworthy when compared with the distribution of analogous features in later components. Among the later components, Sub-class 5.2 features were usually located farther away from other domestic structures.

The obvious optical parallel between Features 338/342 and 344, and Features 282 and 159 in Cluster 1 deserves mention. It is possible that the Feature 159 bone dump occupies the location of a previous structure which served the same function as Feature 344. Following abandonment of this hypothetical structure, its basin may have been recognized as a convenient locus for butchering game or dumping refuse.

Class 6—Other Structures

Cluster 2 contains five Class 6 structures. All are located toward the southern cluster edge, beyond the distributional limits of the Class 5 structures. Here, they are grouped fairly close to one another in an area also containing other feature types.

Feature 275, the westermost of the Class 6 structures, represents Sub-class 6.1, and is thought to have functioned as a kitchen. Ceramic evidence suggests that the structure predates many of the other Cluster 2 features.

Features 297 and 337 are Sub-class 6.2 above-ground storage facilities. Feature 297, probably a household granary, was virtually identical to Cluster 1's Feature 11 in size, shape, and orientation, but had a wall trench rather than single post foundation. In addition, Feature 297 was situated on the same north-south axis as Feature 11 and many of the other Lohmann features.

Identification of Feature 337 as an above-ground storage facility is somewhat tenuous. Considerably less substantial a structure than any of the other Sub-class 6.2 features, this feature may have had a different function. It is possible that this feature predated, postdated, or was auxiliary to Feature 297.

Two Sub-class 6.3 features were associated with the Lohmann component and are interpreted as racks (Table 5.31). Feature 295 was a post structure located immediately adjacent to the proposed Feature 297 granary at the south edge of the cluster. Feature 307 was a wall trench structure that superimposed, and apparently replaced, Feature 295. The specific function(s) of these proposed racks is unknown.

Class 7—Other Features

A single Class 7 feature belongs to Lohmann Cluster 2. Located along the southern edge of the cluster, Feature 296 is a Sub-class 7.4 large, midden-filled depression, a probable clay borrow.

Feature Cluster 3

Lohmann Cluster 3 is located at the southern end of the ICT–II tract in an area roughly bounded by grid coordinates S470–490 and E450–470. The smallest of the three Lohamnn clusters in areal extent, Cluster 3 also contains the fewest features (9) and the fewest categories of features (4). It is likely that only a portion of this cluster was located within the confines of the excavation block. Given the general north-south orientation of that portion of the Lohmann community located in the ICT–II and the continuation of this pattern in parking lot area south of the excavation block, it is probable that more features associated with Cluster 3 are located immediately outside the southern limit of the excavation block (Figure 5.6).

Class 1—Pit Features of Indeterminate Function

Five of the Lohmann Cluster 3 features are Class 1 pits. Three belong to Sub-class 1.1, pits with single-zone fill, one is an example of a Sub-class 1.2 pit with multiple zoned fill, and one represents Sub-class 1.3, shallow basins with associated postmolds. Because of the apparently incomplete exposure of Cluster 3, little can be said concerning the distribution of these features. However, it is worth noting that all are located to the west of the cluster's two exposed structures.

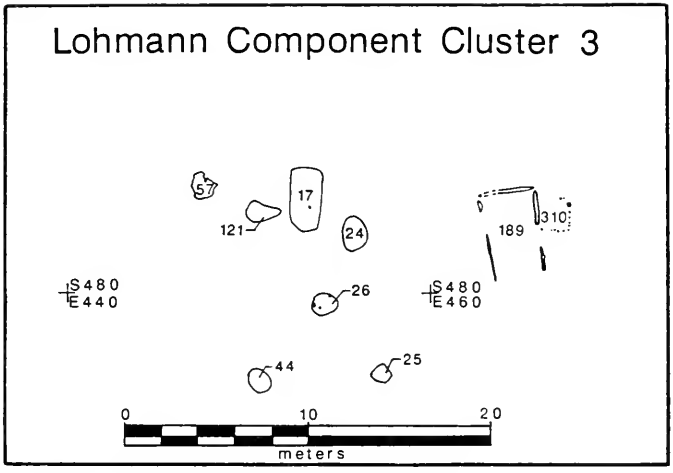


Figure 5.6. Lohmann Feature Cluster 3.

Class 3—Fire-Related Features

Two Class 3 features belong to Cluster 3. One is a Sub-class 3.2 pit with evidence of in situ burning, and the other is a Sub-class 3.5 large communal cooking facility (Type 1). These two features are located near one another in the area generally occupied by Class 1 pits.

Class 5—Enclosed Wall-Trench Structures

A single Class 5 structure is located along the east margin of the excavated portion of Cluster 3. Feature 189 is a Sub-class 5.1 rectangular structure with a floor area of greater than 11 m^2. This structure is oriented in the same way as other Lohmann Class 5 structures, with its long axis aligned more or less north–south. Structure 189 also conforms to the Lohmann pattern of location within a generally north-south trending linear band.

Class 6—Other Structures

One Class 6 feature is located in Cluster 3. Feature 310 belongs to Sub-class 6.1. Feature 310 was a post structure that appeared to have been attached to the east side of Structure 189. Because of this juxtaposition, it is identified as a ramada. It should be noted, however, that Feature 310 was located in an area where much prehistoric excavation and rebuilding occurred. For this reason, the identification of Feature 310 as a ramada is tentative. It is possible that the feature served another function (e.g., as a barbacoa, a rack or an entry portal).

Non-Cluster Features

Of the 107 features identified as belonging to the ICT–II Lohmann component, 28 were located outside the three feature clusters just described. Included in this total are examples of each major feature category. While many of these non-cluster features do not differ significantly from their cluster counterparts, some exhibit unusual or otherwise distinctive characteristics. The following discussion highlights such features.

Class 2—Cache/Storage Facilities

Feature 262 is a large (Sub-class 2.1) storage facility. Its capacity of 1.06 m^3 is the second largest among Lohmann examples of this sub-class. This feature is located in the southeast corner of the excavation block. The only other feature in the immediate vicinity is Feature 145, a Sub-class 4.1 plaza post(mold). The apparent relationship between these two features classes is reminiscent of an Emergent Mississippian pattern of storage pit-plaza post association (cf. Kelly et al. 1984b). Feature 262 could also represent a household level storage facility.

Class 3—Fire-Related Features

Feature 253 was a large firepit located near the western edge of the tract between Clusters 1 and 2. It was the largest of the Sub-class 3.2 fire-pits excavated at the ICT–II. While somewhat isolated, the firepit could be related to either Structure 265 or the anomalous Sub-class 7.3 Feature 465. Feature 253 may have had ritual significance. Several unusual and exotic ceramic vessels were recovered from the feature fill (Holley 1989).

Class 4—Postmolds & Post Pits

Features 400 and 404 are large Sub-class 4.1 plaza posts. They occupied a large, open area east of Cluster 2, which is hypothesized to have been a community plaza during Lohmann times. The only other Lohmann feature in the vicinity of these plaza posts is Sub-class 6.2 Feature 241, a facility believed to

have functioned as a public granary. No other post pits at the tract approached the size of Features 400 and 404.

Feature 400 was a massive, cylindrical pit with a diameter of 1.2 m and a depth of approximately 2.65 m. Depth could only be approximated because during the 1985 excavation of the pit, the water table was encountered before the bottom of the feature was reached.

Feature 404 was located approximately 2 m south of 400. The post portion of Feature 404 had a diameter of 0.9 m and a depth of 2.03 m. The feature included an insertion ramp, which extended for a distance of about two m to the south of the post. Feature 405, which adjoined 404, is interpreted as an extraction pit, which facilitated the eventual removal of the post. Both Features 400 and 404 posts were ultimately removed since the plaza area and the immediate vicinity of the posts was occupied by domestic structures during the subsequent Stirling phase.

Class 5—Enclosed Wall Trench Structures

Feature 287, a Sub-class 5.4 structure, is unusual. It is the only truly T-shaped structure encountered at the ICT–II (see Figure 4.17b). It is also larger than any other Lohmann building, and it exhibited a unique architectural style, one which employed four large interior support posts. The feature is located along the line of structures that apparently marked a significant north-south community axis. It is situated at the southwest corner of a proposed public plaza and appears to be located in a position that separates Lohmann Clusters 1 and 2.

Additionally, Feature 287 may have served as a focal point in the orientation of at least four other Class 5 structures (Features 265, 282, 283, and 305). There is reason to believe that the directional orientation of these four structures, with Structure 287 at their center, had some cultural significance to the Lohmann inhabitants of the tract (cf. Collins 1987). This pattern is particularly interesting in light of the fact that Sub-class 5.1 Features 265 and 283 do not appear to fit well into either Cluster 1 or Cluster 2.

Feature 287 may represent a nodal point between Clusters 1 and 2. As such, it might be better viewed as an integrating, rather than a separating, mechanism between the social entities represented archaeologically by the two feature clusters. Another pattern that should be noted is that which incorporates Feature 287 and two analogous pairs of features, one lying north and one south of the T-shaped structure. It is highly unlikely that the near mirror image pattern formed by Features 209/210 and 274/275 on either side of Feature 287 is coincidental.

Class 6—Other Structures

Feature 341, a Sub-class 6.2 above-ground sotrage facility, was located in the proposed plaza east of Cluster 1 (Figure 5.2). This feature was located near the two previously described large plaza posts, Features 400 and 404. Its location within the community suggests that Feature 341 may have been a public storage facility. It consisted of a deep pit with a continuous wall trench around its basal periphery. The relict molds of substantial foundation posts were evident on all sides within the roughly quadrilateral trench. Such a foundation surely indicates that the structure was intended to support substantial weight.

Class 7—Other Features

Feature 301, representing Sub-class 7.3 unique features, was a dog burial. The feature is quite unusual in that the animal was not deposited in a pit excavated vertically from ground surface, but was rather "entombed" in a vault-like shelf excavated into the west basin wall of Structure 283. This unusual situation could indicate that the dog achieved, or was ascribed, an elevated status (cf. Parmalee 1975:154).

Feature 465, another member of Sub-class 7.3, is truly anomalous. It is unfortunate that only a portion of the feature was located within the excavation block, as partial excavation impedes interpretation. In planview, the feature was circular, with a diameter of approximately 8 m. Assuming that the portion of the feature lying outside the excavation block completed the circle, the projected feature area would have equaled approximately 50 m^2. Such an area would have made 465 the largest feature in the ICT–II. In profile, the feature took the form of a saucer-shaped basin.

No structural elements were identified during excavation. If structural elements had been present, the most obvious ethnographic feature parallel would have been the "hot house," "stove," or "rotunda" of historic southeastern towns. Seemingly every early traveler through the southeast remarked on these structures, and many left detailed descriptions of their construction (see Swanton 1946:386-394). These buildings served as both winter habitations and council chambers. Without structural evidence, it is difficult to argue unequivocally that Feature 465 was indeed a "hot house." Feature 465 was located along the western margin of the excavation block to the west of, and between, Lohmann Feature Clusters 1 and 2. It is possible that the feature was a nodal point within a larger community compound that was only partially represented within the ICT–II confines (cf. Emerson and Milner 1982; Mehrer 1986).

Lohmann-Stirling "Component" Features (n=37)

Thirty-seven features excavated at the ICT–II are affiliated with a "component" designated Lohmann-Stirling (Figure 5.7). Ceramic evidence and/or context indicated that these features could not be associated with any component other than Lohmann or Stirling, *or* that they were transitional between the two. Most of these features contained negligible volumes of fill. Consequently, they yielded limited ceramic materials. When appropriate, component assignment was determined by contextual factors such as a feature's stratigraphic relationship to known Lohmann or Stirling features or its horizontal proximity to features of known cultural affiliation. A positive association with either the Lohmann or Stirling component can be reliably inferred.

The Lohmann-Stirling "component" was represented by six of the seven major feature classes and ten of twenty-seven sub-classes (Table 5.34). Obviously, the ambivalent cultural identities of these features precludes their consideration in the context of household feature clusters.

Class 1—Pit Features of Indeterminate Function

Twenty-seven Class 1 pit features were assigned to the Lohmann-Stirling "component." Of these, 26 were Sub-class 1.1 pits and one represented the Sub-class 1.3 pits with associated posts category.

Lohmann-Stirling Sub-class 1.1 pit features (Table 5.35), like the Lohmann features of this Sub-class, were widely distributed over the excavation block, but they predominantly occurred in areas of lower elevation. While the pits were generally scattered across the tract, there do appear to be discrete clusters within the scatter. The most obvious was in the vicinity of Structure 265, a Lohmann rectangular wall trench structure (Sub-class 5.1). This feature grouping is bounded by CMG coordinates S410–440 and E420–460. Given that most of the other features in that area of the tract belong to the Lohmann component, it is likely that the cluster of Lohmann-Stirling pits reflects activities associated with the Lohmann community (Figure 5.7). However, they do not belong to any of the defined Lohmann feature clusters, even though some lie within the outer limits of one or another cluster.

Feature 27, the single Lohmann-Stirling example of Sub-class 1.3 (Table 5.36) is located at the south end of the tract in the vicinity of Lohmann Feature Cluster 3 and several Early and Late Stirling feature complexes.

Class 3—Fire-Related Features

Two fire-related features were assigned to the Lohmann-Stirling "component." These were Feature 194, a Sub-class 3.1 hearth (Table 5.37), and Feature 211, a Sub-class 3.2 firepit (Table 5.38). These features were both located in the west-central area of the ICT–II, along the northwest edge of Lohmann Cluster 1. More specifically, they were near a group of Lohmann features that are possibly associated with Structure 265, the western member of the Lohmann quadripartite structure grouping discussed earlier. A Lohmann association for these features is strongly suggested, although they could be related to nearby Stirling features in this area.

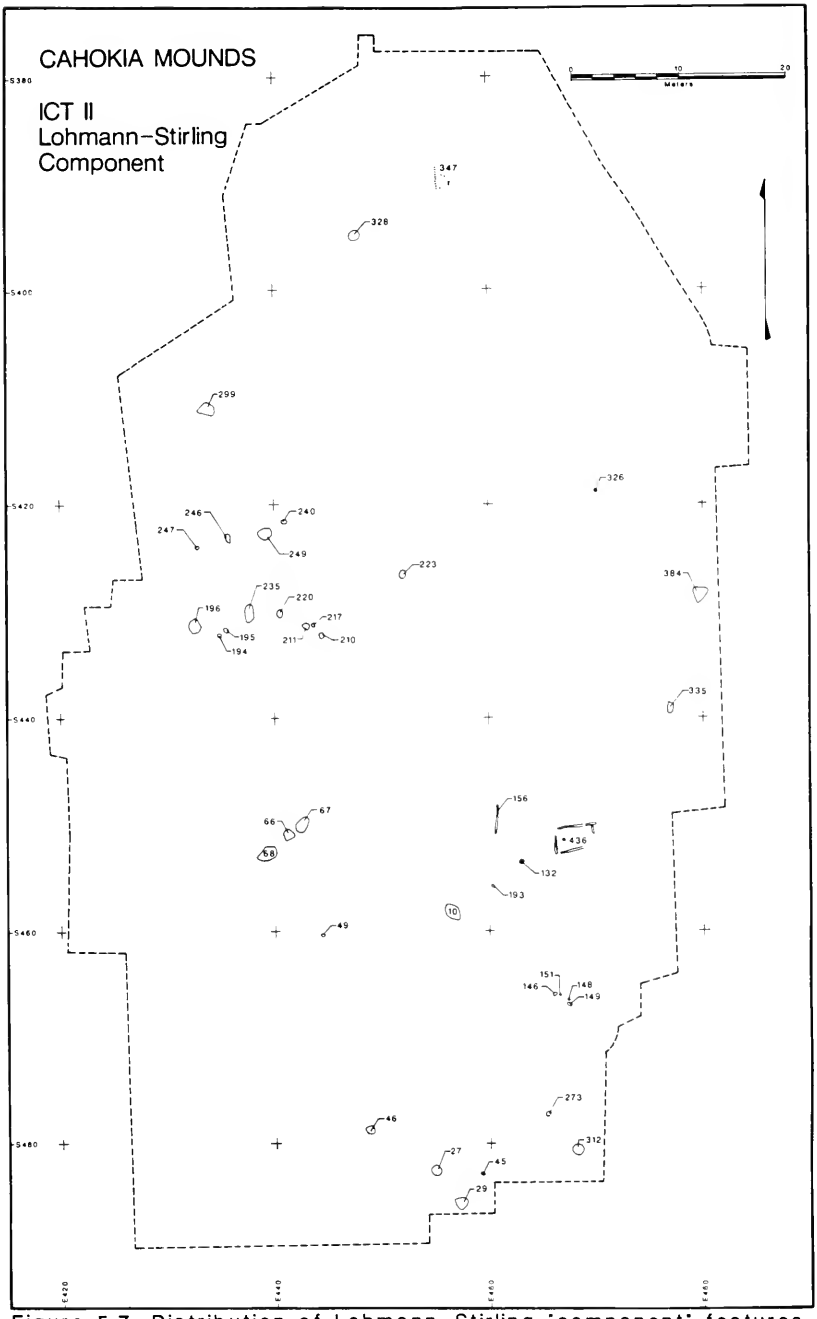


Figure 5.7. Distribution of Lohmann-Stirling "component" features.

Class 4—Postmolds & Post Pits

Four Class 4 features were assigned to the Lohmann-Stirling "component" (Tables 5.39 and 5.40). These include three patio posts (Sub-class 4.1) and one structural post (Sub-class 4.2).

The three patio posts are represented by Features 45, 132, and 326. Feature 45 was located near Lohmann Cluster 3 and a subsequent Stirling feature cluster in the same vicinity. Feature 132 was located near the east edge of Lohmann Cluster 1 and near various Stirling structures. The same is true of Feature 326, situated near Lohmann Structure 283 and Stirling Structures 286 and 324.

Feature 326 is part of an interesting and as-yet unexplained spatial pattern also involving Features 404 and 303, both Lohmann Sub-class 4.1 patio posts. These features lie in a straight northeast-southwest line, and are spaced equidistantly at 12 m. This pattern may be fortuitous or it may suggest a Lohmann association for Feature 326.

Feature 273 represents the single Sub-class 4.2 feature associated with the Lohmann-Stirling "component." This feature may be a step post related to Lohmann Structure 189 or a structural support post for either of two Stirling structures, 212 or 215.

Class 5—Enclosed Wall-Trench Structures

Two Sub-class 5.2 small, rectangular wall trench structures were assigned to the Lohmann-Stirling "component" (Table 5.41). Feature 156, located within the eastern limits of Lohmann Cluster 1, represents a portion of the smallest and earliest of three consecutively erected buildings. The structure, which incorporated Feature 156, was superimposed on Lohmann Structure 128 and was superimposed by Stirling Features 154 and 155.

Feature 436 was located immediately to the east of Feature 156, and represents the earliest in a sequence of structures. It was superimposed by Early Stirling Structures 437 and 438. Unfortunately, ceramic materials were lacking from Feature 436, and a precise cultural identification could not be made.

Class 6—Other Structures

One Sub-class 6.5 structure was assigned to the Lohmann-Stirling "component" (Table 5.43). Located near the north end of the ICT–II, Feature 347 was a flimsily built post structure superimposed on Lohmann Structure(s) 338/342. The feature is tentatively identified as a rack.

Class 7—Other Features

The Lohmann-Stirling "component" included two Class 7 features. Sub-class 7.2 Feature 384, on the east edge of the tract, overlay the fill of Lohmann Feature 358. It was defined primarily on the basis of distinctive soil color and texture. It is probably best viewed as representing a discrete episode of filling in or on the larger body of Feature 358 fill.

Sub-class 7.4 Feature 68 is interpreted as a small clay borrow (Table 5.44). The feature was located at the west edge of Lohmann Feature Cluster 1 and may relate to that complex or any nearby Stirling feature complex.

Stirling Component Features (n=240)

The Stirling phase was represented by more features than any other phase (Figure 5.8). Because of the time depth involved in the Stirling phase (ca. 100 years) and the large number of excavated Stirling features at the ICT–II, the component has been chronologically subdivided to facilitate data presentation. The divisions are Early Stirling, Late Stirling, and General Stirling. Early and Late Stirling features were fairly easily distinguished from one another on the basis of ceramic criteria (Holley 1989) and feature superpositioning. However, there were many instances when features clearly assignable to the Stirling component could not be more precisely identified as either Early or Late. In such cases, features were simply designated as belonging to a General Stirling category.

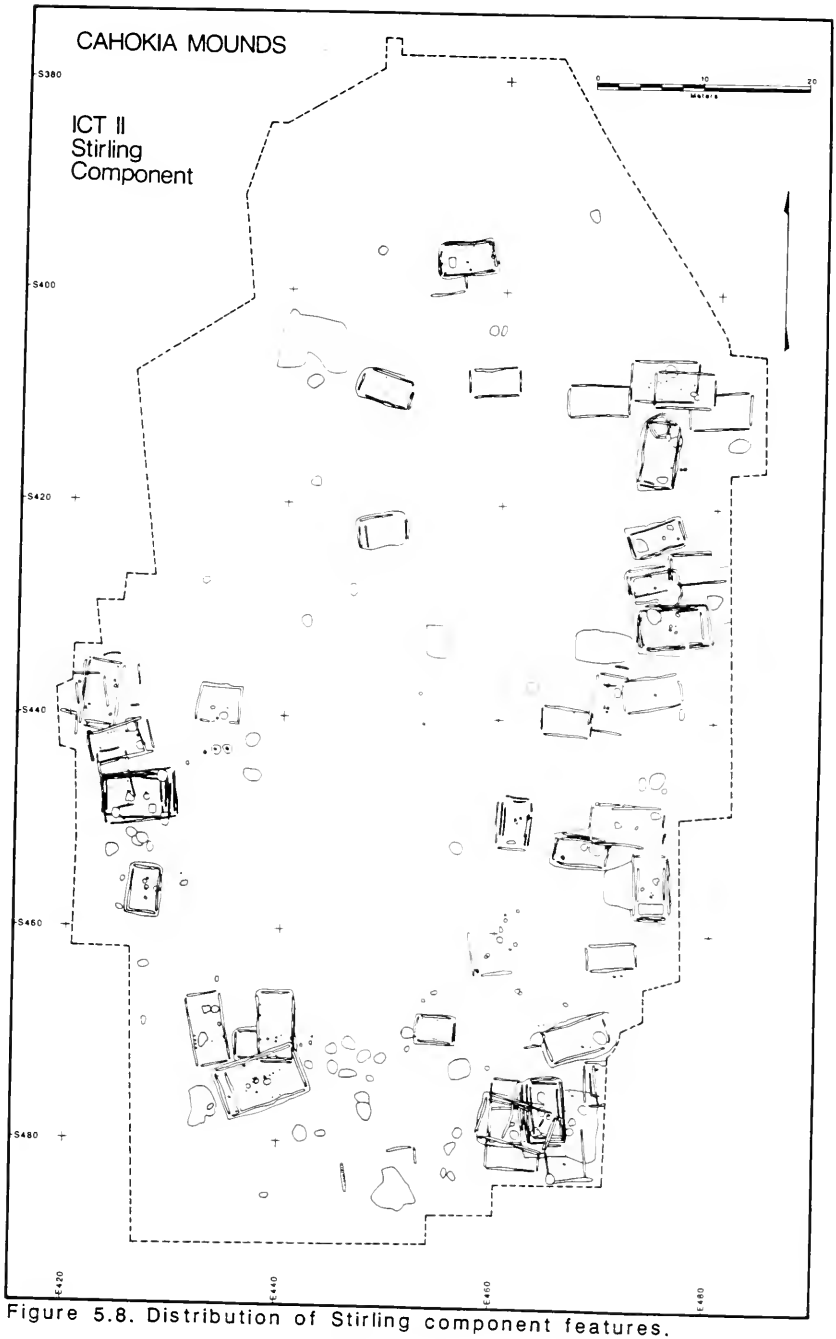


Figure 5.8. Distribution of Stirling component features.

The following discussion of Stirling component features presents the data by specific chronological subdivision. As was the case for the Lohmann component, the discussion is organized around the household feature cluster. Significant features lying outside the boundaries of such clusters are considered at the end of each chronological section.

Early Stirling Component Features (n=106)

The Early Stirling component is represented by all seven major feature classes and all but six of the sub-classes defined in Chapter 4 (Figure 5.9; Table 5.45). Feature sub-classes not represented in the Early Stirling occupational remains at the ICT–II are:

1.3 Shallow basins with associated postmolds
3.2 Pits with evidence of in situ burning indicative of function
3.3 Pits with associated postmolds
3.4 Smudge pits
6.2 Above-ground storage facilities
7.1 Butchering station/bone dumps
7.4 Large, amorphous midden-filled depressions

Seven spatially discrete feature clusters have been identified within the area of Early Stirling occupation. These clusters lie along the boundaries of the ICT–II tract, nearly encircling the center, an area almost completely devoid of Early Stirling features. This distribution very clearly indicates the existence of an open plaza in Early Stirling times, a communal focus around which individual households were arranged (Figure 5.10).

Of the 107 features identified as Early Stirling, 103 are contained within feature clusters, while a mere 4 are located outside cluster boundaries.

Feature Cluster 1

Feature Cluster 1 is located on the west side of the proposed plaza, where it is roughly bounded by CMG coordinates S430–460 and E420–440. Cluster 1 contains the second highest number of features (19) among Early Stirling groupings. These features represent nine different sub-classes (Figure 5.11).

Class 1 Features—Pits of Indeterminate Function

A single representative of this class is contained within Cluster 1. Feature 169, a Sub-class 1.1 pit with homogeneous single-zone fill, is located in the north half of the cluster, where it is centrally placed among other features.

Class 2 Features—Cache/Storage Facilities

Nine Class 2 features occur in Early Stirling Cluster 1, more than in any other cluster. Three are examples of Sub-Class 2.1 exterior storage pits, while five are Sub-class 2.3 interior cache/storage pits.

The three exterior storage pits were all located within a few meters of structures. Feature 170 lay just off the northeast corner of Structure 425. Features 108 and 115 lay immediately next to one another between Structures 97 and 426. The integral positions of these features within the cluster and their close association with structures bear out their presumed function as private, household storage facilities.

Four of the Sub-class 2.3 pits were located inside Class 5 structures. Feature 120 occupied the center of Structure 97, the southernmost member of the cluster. Features 180, 181, and 182 were all located inside a single structure, 179, at the northeast cluster corner. Two of these pits (181 and 182) sat just inside the structure's apparent entrance in the middle of the south wall, while the third (180) was situated in the southwest structure quadrant, well away from the walls. The remaining pit, Feature 464, lay just to the east of Structure 458 near the northwest edge of the cluster.

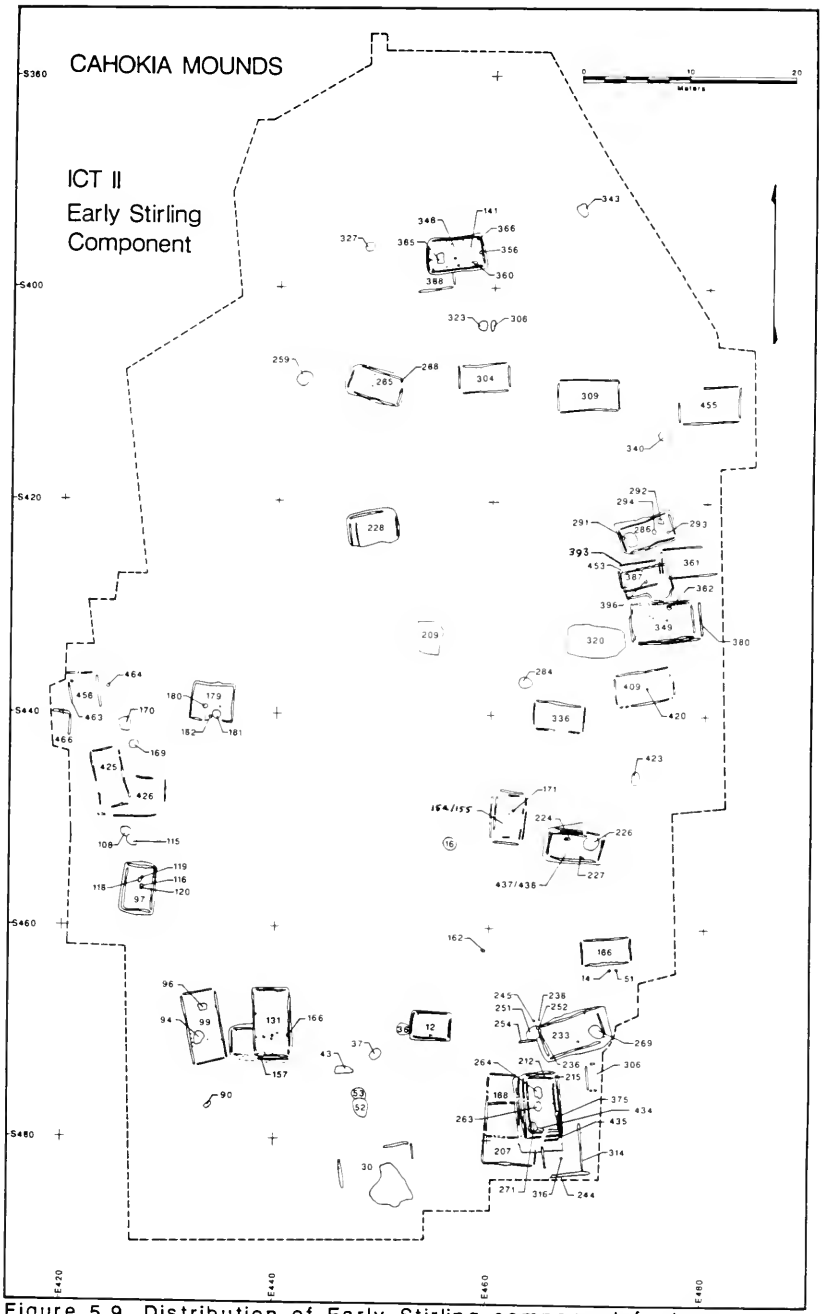


Figure 5.9. Distribution of Early Stirling component features.

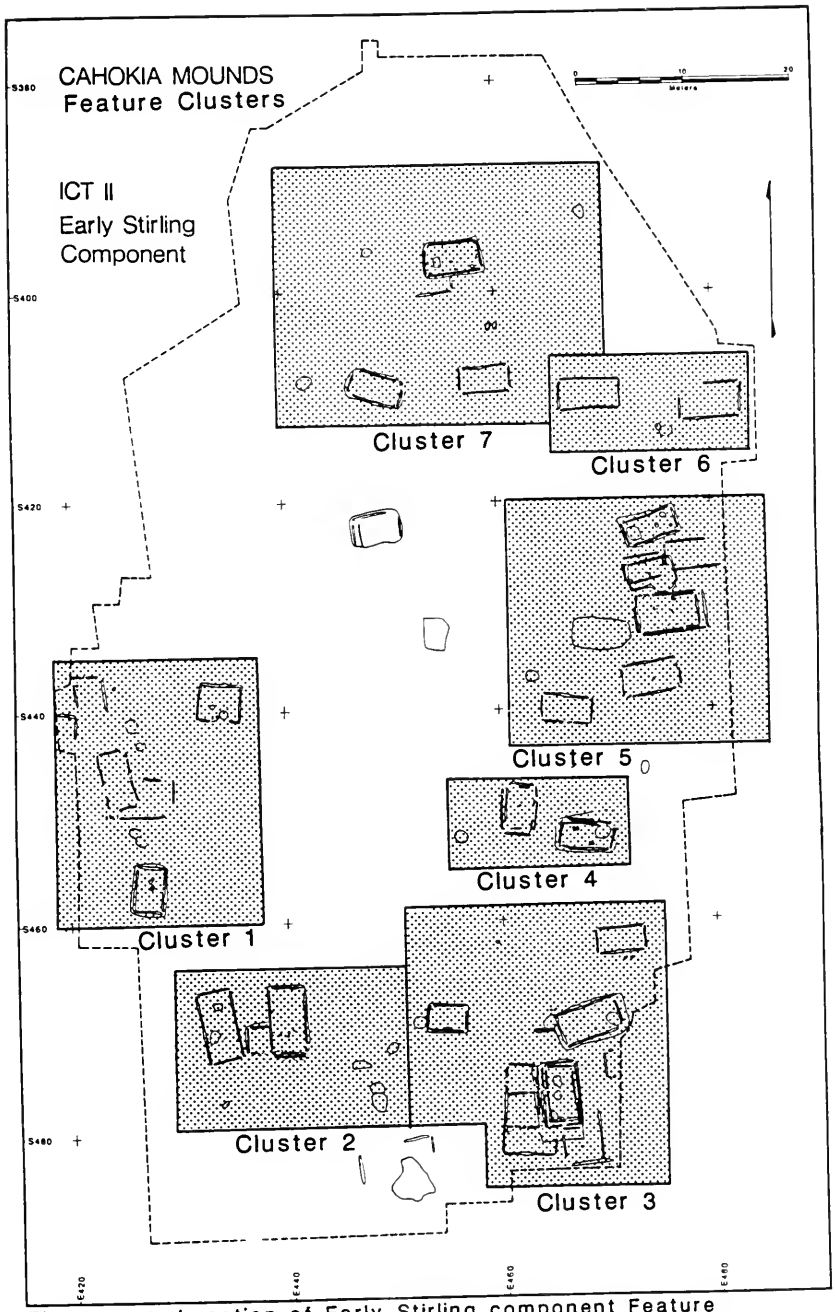


Figure 5.10. Location of Early Stirling component Feature Clusters 1–7.

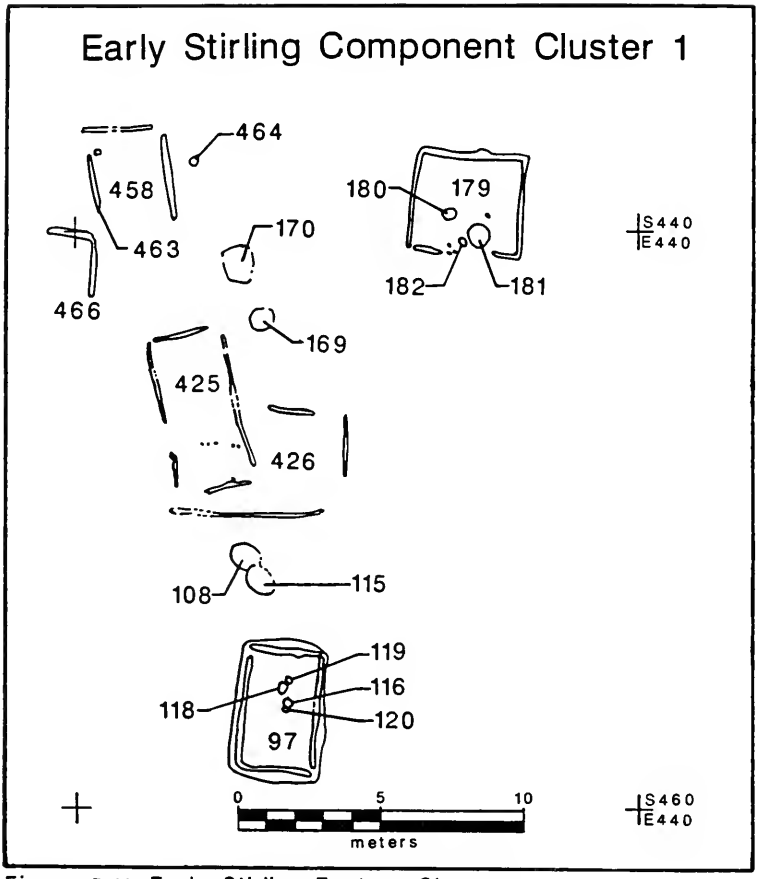


Figure 5.11. Early Stirling Feature Cluster 1.

Class 3 Features—Fire-Related Features

Cluster 1 contained two fire-related features (118, 119), one of only two Early Stirling clusters to include examples of this feature category. Both Cluster 1 examples are Sub-class 3.1 hearths, and both occur inside the same structure (97) at the south end of the cluster. Within the structure, the two features were located slightly north of center. Although they were clearly distinct from each other, it would probably be best to view them as representing sequential episodes involving the same activity. Feature 119 was created earlier, was filled in, and was subsequently superimposed by Feature 118. Both features were shallow depressions and each exhibited a zone of heavily oxidized soil lining the basin.

Class 4 Features—Postmolds & Post Pits

A single example of this feature class was located in Cluster 1. Feature 116, a Sub-class 4.2 postmold, marks the location of a structural post inside Structure 97. It sits near the center of the structure adjacent to a small cache pit (Feature 120).

Class 5 Features—Enclosed Wall Trench Structures

Four Class 5 features were included in Cluster 1. Two represented Sub-class 5.1 large rectangular structures, one was a Sub-class 5.2 small rectangular structure, and the fourth was a Sub-class 5.3 square structure.

The two Sub-class 5.1 structures, Features 425 and 426, occupied central positions within the feature group. The latter was rebuilt at a different angle over the former. These features had very shallow basins containing little fill, and little diagnostic cultural material. Consequently, component identification was based primarily on spatial considerations. In general, stratigraphic relationships among structures and pits in this area provided the basis for a sound relative feature chronology. This ordering was aided by the existence of several nearby pits which yielded significant ceramic samples. Nevertheless, several later construction episodes involving Sub-class 5.1 buildings in Cluster 1 were assigned to the General Stirling "component" because positive associations with either Early or Late Stirling feature assemblages could not be demonstrated. Though Sub-class 5.1 structures in several Early Stirling feature clusters appeared to be paired, such associations could not be demonstrated for Cluster 1.

The single small rectangular structure in Early Stirling Cluster 1 was Feature 97, situated along the southern edge of the grouping. This feature differed from other Early Stirling examples of the type in that it contained a number of internal features, the hearths, pits and postmold described above.

Feature 179, located at the northeast edge of Cluster 1 was one of two Early Stirling examples of square or nearly square structures. Distinctive in outline, Feature 179 was also unusual in that it had a rather wide entryway in the middle of the south wall. Although different in form from other Cluster 1 structures, Feature 179 does not present a size contrast. Its floor area of 11.84 m^2 is only slightly larger than the average for Sub-class 5.2 structures.

Class 6 Features—Other Structures

Early Stirling Cluster 1 included three Class 6 structures. All were Sub-class 6.4 miscellaneous trenches, and all were located in the northwest corner of the cluster. Whether they are remnants of substantial structures or mark the locations of more modest rack or screen constructions is unknown.

Feature Cluster 2

Feature Cluster 2 was located on the southwest edge of the proposed Early Stirling plaza, in the area roughly bounded by CMG coordinates S465–480 and E425–450. With eleven features representing six subclasses, Cluster 2 was one of the smaller and least complex of the Early Stirling groupings (Figure 5.12).

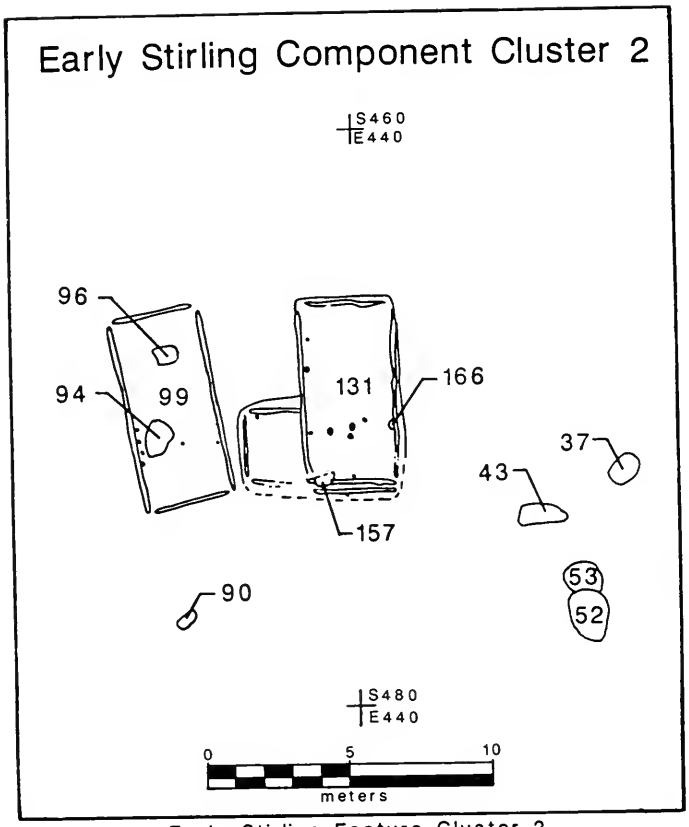


Figure 5.12. Early Stirling Feature Cluster 2.

Class 1 Features—Pits of Indeterminate Function

Feature Class 1 is represented by six of the eleven features contained in Cluster 2; these six features constitute 43% of all Early Stirling Class 1 features. Four are Sub-class 1.1 pits with homogeneous single-zone fill, and two are Sub-class 1.2 pits with multiple zone fill. These features are generally distributed to the south of the cluster's structures. The two Sub-class 1.2 pits adjoin one another at the southeast cluster edge.

Class 2 Features—Cache/Storage Facilities

Three Class 2 features are contained within Cluster 2. One is a Sub-class 2.2 interior storage pit, located in the southwest quadrant of Structure 99 near the west wall. The remaining two are Sub-class 2.3 small cache pits. Both are located inside structures, one in the north central portion of Structure 99 and one along the east wall of Structure 131.

Class 5 Features—Enclosed Wall Trench Structures

Class 5 is represented in Cluster 2 by two features. The two were situated side by side, with long axes oriented in roughly the same (not quite parallel) north-south direction. One is a Sub-class 5.1 rectangular structure with a floor area of greater than 11 m^2. The other is a Sub-class 5.4 unusual structure, with a true L-shaped plan.

The location of the L-shaped structure at the southwest edge of the proposed plaza echos the earlier Lohmann situation involving the T-shaped Feature 287. The existence of structures that were somehow unusual near the southwestern corner of hypothesized plazas is a relatively common phenomenon in Mississippian archaeology. Examples have been noted at Knoebel (Bareis 1970, 1976), Mitchell (Porter 1974), and Orendorf (Santure 1981). The reason underlying this pattern is not known at present.

Feature Cluster 3

Early Stirling Cluster 3 lies at the southeastern edge of the proposed plaza between CMG coordinates 460–485 and E450–475. A relatively complex aggregation, Cluster 3 contains more features (28) than any other Early Stirling group. Eleven different feature subclasses are represented (Figure 5.13).

Class 1 Features—Pits of Indeterminate Function

Two examples of this class occur in Cluster 3. Both are Sub-class 1.1 pits with homogeneous single zone fill, and both are closely associated with structures. Feature 36 is located on the western margin of the cluster, where it lies outside and abuts the west wall of Structure 12. Feature 316 is near the southern limit of the cluster, where it is located among elements of various structures.

Class 2 Features—Cache/Storage Facilities

Three Class 2 features occur in Cluster 3. All represent Sub-class 2.2 interior storage pits, and all are associated with the same structure complex. Feature 263 is located near the center of Structure 212, one of a series of houses rebuilt on the same spot. Features 264 and 271 are located inside Structure 215, another in the series of buildings occupying that spot. Feature 264 sits near the center of the northern half of the house, while Feature 271 is loated near the southwest corner.

Class 4 Features—Postmolds and Post Pits

Six of the eight Early Stirling features identified as belonging to Class 4 are found within Cluster 3. Four represent Sub-class 4.1 free-standing patio/door posts, the entire complement of such Early Stirling features. Features 14 and 51 and Features 238 and 245 represent two sets of paired posts. The latter pair was

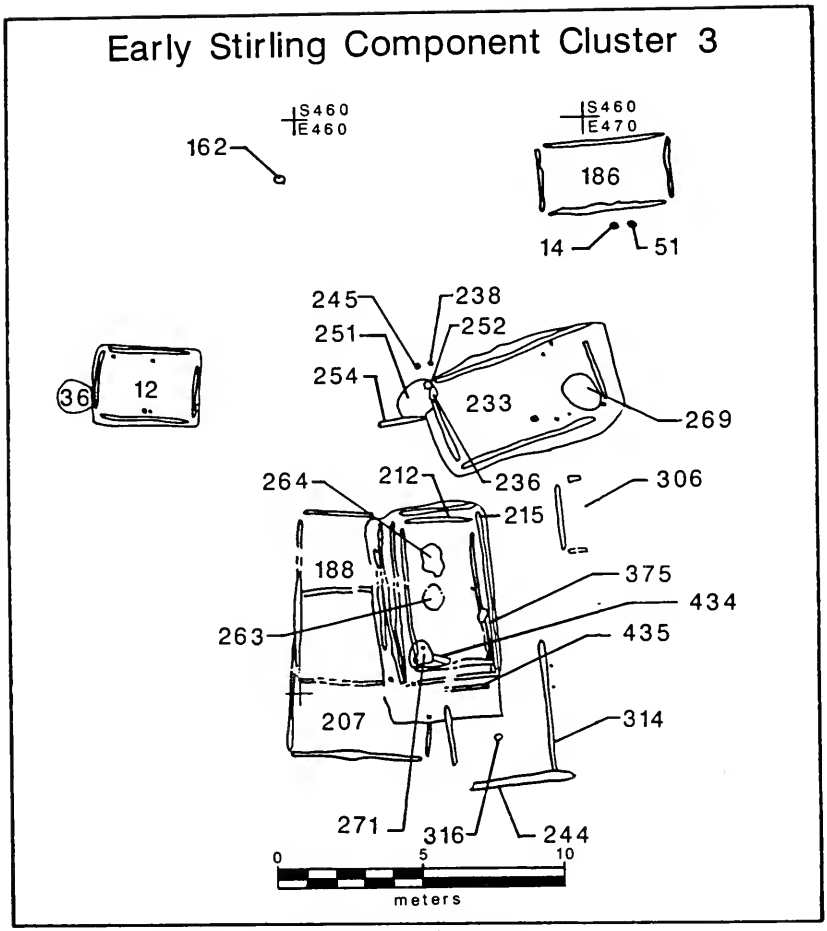


Figure 5.13. Early Stirling Feature Cluster 3.

located just outside the proposed entry to Structure 233. Features 14 and 51 were located just south of Structure 186, where they may have marked the entryway.

The two remaining Class 4 features are Sub-class 4.2 structural posts. Features 236 and 252 lie immediately next to one another at the northwest corner of Structure 233, probably marking the threshhold of that structure.

Class 5 Features—Enclosed Wall-Trench Structures

Cluster 3 contains eight Class 5 structures, more than any other Early Stirling Cluster. Included in this number were at least four Sub-class 5.1 structures, Features 188, 212, 215, and 233. The first three of these were superimposed on Feature 207, a Sub-class 5.3 structure believed to be the earliest Stirling phase building in the area. All of the Early Stirling structures associated with Cluster 3 were superimposed on Lohmann Structure 189.

Features 188 and 212 and Features 215 and 233 seem to be sequentially discrete structural pairings. Features 188 and 212 formed an acute V-shaped pattern similar to that displayed by Cluster 2 Features 99 and 131 (but transposed here). Features 215 and 233, if they were paired, formed an obtuse, V-shaped pattern. This arrangement may have been necessary to accommodate Sub-class 5.2 Feature 306, which may have been in place at the time.

Three examples of Sub-class 5.2 small rectangular structures occur in Cluster 3. Two of these (12, 186) conform to the general Early Stirling "rule" regarding location of such structures on the peripheries of defined clusters. Structure 12 is situated at the west side of Cluster 3, somewhat apart from the main feature aggregate, while Structure 186 occupies an analogous position to the north. The third structure, 306, appears to deviate from this pattern in its situation near the center of Cluster 3. However, this feature was located at the edge of the excavation block and was only partially exposed. Consequently, its classification as a Sub-class 5.2 feature is tenuous and its relationship to Cluster 3 problematic.

A single Sub-class 5.3 square structure (one of only two Early Stirling examples) was located in Cluster 3. Feature 207 is a large (26.88 m^2) square structure more typical of the later Moorehead phase, but its identification as Early Stirling is beyond question. The structure was clearly overlain by Early Stirling Structures 188, 212, and 215 and Late Stirling Structure 178. As mentioned earlier, it appears to have been one of the earliest Stirling buildings erected at the ICT–II.

Class 6 Features—Other Structures

Six Class 6 structures are associated with Early Stirling Cluster 3. Three are Sub-class 6.3 small auxiliary constructions, and three represent Sub-class 6.4 miscellaneous trenches.

Two of the Sub-class 6.3 features are identified as screens. Feature 244, the southernmost Cluster 3 member, was a trench structure that appeared to enclose a portion of the feature complex. Feature 254 was a screen of trench construction that may have formed a vestibule at the entrance of Structure 233. The third Sub-class 6.3 structure, Feature 314, is interpreted as a fence. The relict molds of very substantial posts were evident within the feature trench at evenly spaced intervals (see Figure 5.20). The function of this massive structure is not readily apparent. Assuming Feature 314 and Feature 244 to have been contemporaneous, they may have defined the limits of a small patio. If roofed, the enclosed area could have constituted a ramada or arbor.

The three miscellaneous trenches occurring in Cluster 3 (375, 434, 435) are functionally ambiguous. They may represent small discrete constructions or they may be remnants of various rebuilding/renovation episodes.

Class 7 Features—Other Features

Three features located in Cluster 3 comprise the only examples of Class 7 features identified as Early Stirling. One is a Sub-class 7.2 fill feature, while two represent Sub-class 7.3 miscellaneous "other" features.

Feature 162 (Sub-class 7.2) was first defined as a concentration of large mammal bones in the fill of Lohmann Structure 133. Closer contextual examination and analysis of ceramics recovered from the

feature indicated that the pit was an Early Stirling intrusion into the filled Lohmann house basin. The existence of this feature lends support to the suggestion that a group of nearby features, interpreted as a hide-smoking activity set (see later discussion), dates to Early Stirling times.

Of the two miscellaneous "other" features, Feature 251 is interpreted as an entry ramp into the basin of Structure 233. This ramp was protected by a screen (Feature 254) and led directly to the structure's threshold, represented by post Features 236 and 252.

Feature 269, the second of the miscellaneous features, was located inside Structure 233. Situated in the southeast corner of the structure, The feature was doughnut-shaped. Its function is undetermined, but its shape suggests the imprint of the end of a hollow log. Perhaps a log was brought into the structure for use as a stool or seat. Alternatively, Will and Hyde (1964:170) have described the seasonal indoor storage of wooden mortars by the Omahas. Perhaps Feature 269 is the impression of a stored (upside down) mortar.

Feature Cluster 4

Cluster 4 is a relatively small Early Stirling feature aggregate. Located along the east side of the plaza, it is roughly bounded by CMG coordinates S440–460 and E 460–475. Cluster 4 contains nine features, representing six different feature categories (Figure 5.14).

Class 1 Features—Pits of Indeterminate Function

Two examples of this class occur in Cluster 4. Feature 171 is a small Sub-class 1.1 pit with homogeneous single-zone fill. It is located inside Structure(s) 154/155 slightly north of the buildings' centerpoint. Feature 16, a much larger, exterior Sub-class 1.2 pit with multiple zone fill, occupies the westermost position within the cluster.

Class 2 Features—Cache/Storage Facilities

A single Class 2 feature is found in Cluster 4. Feature 226 is tentatively classified as a Sub-class 2.1 exterior cache/storage pit. The feature appeared to have been superimposed on the north wall trench(es) of Cluster 4 Structures(s) 437/438. In turn, it was superimposed by a Late Stirling structure, Feature 213. Ceramics recovered from the pit suggest an Early Stirling association. In view of the complex stratigraphy of the surrounding area, we acknowledge that Feature 226 *may* have been contained within Feature 437 or 438, and so *may* actually represent Sub-class 2.2, interior cache/storage pits.

Class 5—Enclosed Wall Trench Structures

Class 5 structural features occupied two positions within Cluster 4. In both locations, the original structure was eventually replaced/rebuilt once, yielding archaeological evidence of four different structures. One set of structures (437/438) belongs to Sub-class 5.1, large rectangular structures (with floor areas >11 m^2). The second set (154/155) represents Sub-class 5.2, small rectangular structures (with floor areas <11 m^2). Assuming occupational contemporaneity, the two sets of structures would have been laid out nearly at right angles to one another.

Class 6 Features—Other Structures

Two representatives of Class 6 are contained within Cluster 4. Both are Sub-class 6.3 auxiliary domestic constructions. Features 224 and 227 mark the locations of benches within the the same structure(s) (437/438). Identical in appearance, both involved trench construction. Feature 224 was located in the northwest corner of the structure(s), while Feature 227 was located in the opposite, southeast corner.

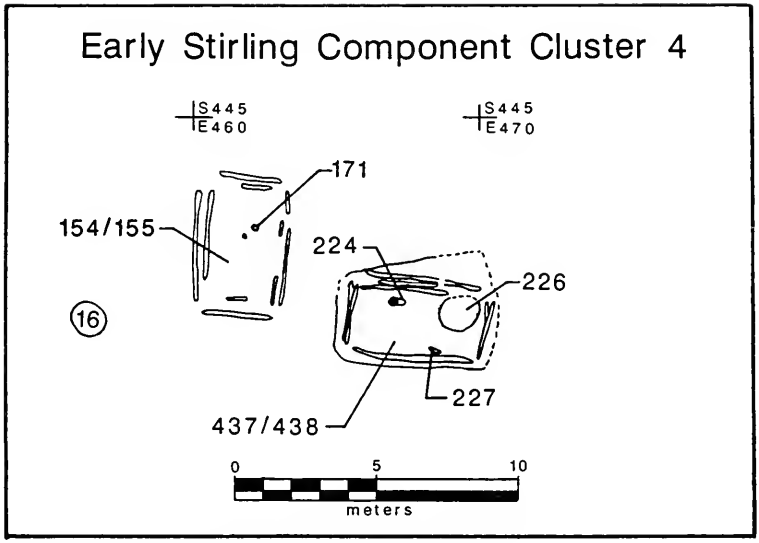


Figure 5.14. Early Stirling Feature Cluster 4.

Feature Cluster 5

Located on the east side of the plaza, between CMG coordinates S420–445 and E460–480, Cluster 5 is a sizable Early Stirling group. It contains seventeen discrete features, representing nine different feature categories (Figure 5.15).

Class 2 Features—Cache/Storage Facilities

Six Class 2 features are contained within Cluster 5. One of the six (284) is a Sub-class 2.1 exterior storage pit. A relatively large feature, it is located at the southwest cluster edge within a few meters of Structure 336.

Cluster 4 includes one example of a Sub-class 2.2 interior storage pit. A large feature (291), it lies within the northernmost structure (286), occupying a substantial portion of the west end of the house.

The remaining four Class 2 features are Sub-class 2.3 small cache pits with structural associations. Two (292, 293) are located at the east end of Structure 286, one in each corner. A third (396) is found near the center of Structure 387. The fourth (382) lies within Structure 349 midway along the northern wall.

Class 3 Features—Fire-Related Features

Cluster 5 contained three Class 3 features, one of only two Early Stirling clusters to include this category. Included in the inventory were two Sub-class 3.1 hearths and one Sub-class 3.5 large cooking facility.

One of the hearths, Feature 294, was situated slightly east of center within Structure 286. This hearth exhibited oxidized soil lining a shallow, circular depression, making it morphologically similar to Cluster 1 Features 118 and 119, but unlike those hearths, Feature 294 was associated with a post.

Feature 420, the second hearth, was situated inside Structure 409 just east of center, conforming to the pattern observed for other Early Stirling hearths. Feature 420 took the form of a shallow, circular depression. Its lining was not as heavily oxidized as the other Early Stirling hearths.

Feature 320, the Sub-Class 3.5 cooking facility is identified as a Type 2 roasting pit. Although Feature 320 appears to be an integral part of Cluster 5, certain locational aspects suggest otherwise. Its location would have placed it up wind from and very close to supposedly contemporaneous structures. This evidence suggests that Feature 320 was abandoned prior to the construction of Structure(s) 349/380. Feature superpositioning tends to support this interpretation. All of this suggests that Feature(s) 349/380 and perhaps Feature 409 were among the last of the Early Stirling structures constructed in that area of the tract.

Class 5 Features—Rectangular Wall Trench Structures

Among the Cluster 4 features are seven Class 5 structures, the second largest grouping of such structures within the Early Stirling component. These structures are similarly oriented with long axes more or less running east to west, and they are arranged in an arcing north-south pattern.

Four of the structures are members of Sub-class 5.1, large (>11 m^2) rectangular structures. These are Features 349, 361, 380, and 409. Feature 380 was an apparent rebuilding of Feature 349. Sufficient data are lacking to examine the contemporaneity or sequence of structural use. Unlike Sub-class 5.1 structures in previously discussed clusters, those in Cluster 5 were not arranged to form V-shaped patterns. Rather, as indicated above, they were nearly parallel. It is possible that structures related to Cluster 5 were located outside the excavation block, rendering the observed pattern(s) incomplete.

Two Sub-class 5.2 small (<11 m^2) rectangular structures occur in Cluster 5. Feature 336 lies at the extreme southern end of the cluster, while Feature 286 occupies the extreme northern position within the group. The latter is unusual among the Sub-class 5.2 structures generally in that it contained a variety of internal features including a large cache/storage pit, two small cache pits, and a hearth. Feature 286 may have been an ordinary domestic structure, such as represented by Sub-class 5.1. However, its unusual attributes and its location on the edge of Cluster 5 and near Cluster 6 suggest a special function more in line with Sub-class 5.2.

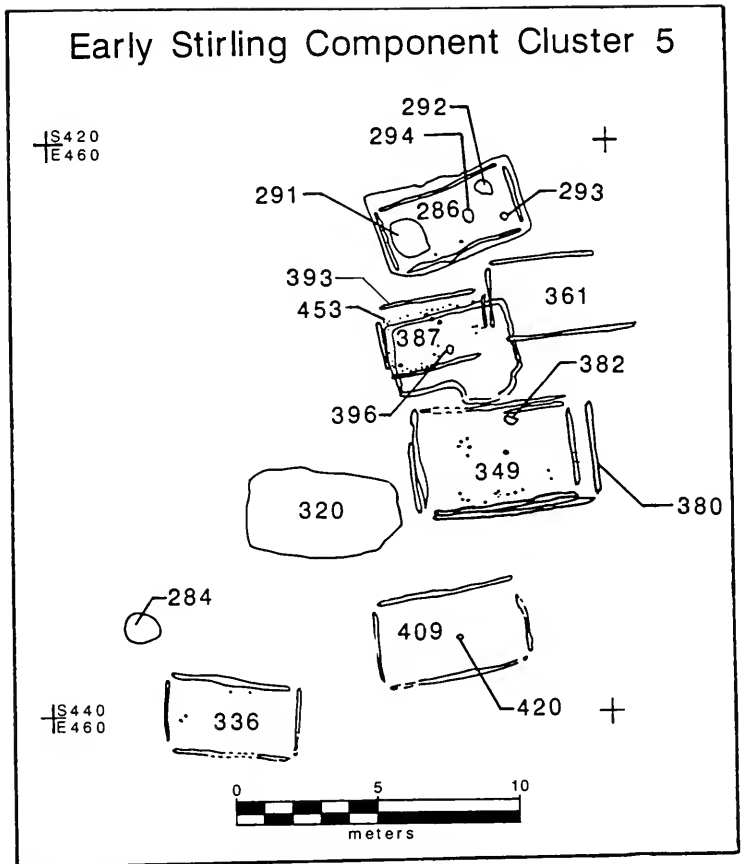


Figure 5.15. Early Stirling Feature Cluster 5.

A single Sub-class 5.4 structure (387) is found in Cluster 5, one of two identified among Early Stirling features. Feature 387 is a modified T-shaped structure located near the center of Cluster 5. The reason for its unusual shape is not known.

Class 6 Features—Other Structures

One Class 6 feature occurs in Cluster 5. Feature 453 is a Sub-class 6.5 post structure, the lone example of this type within the Early Stirling feature assemblage. Generally circular in form, this structure also featured an easterly extension of posts. The overall pattern was in the shape of the numeral "6". Feature 453 was superimposed by Sub-class 5.4 Structure 387 and later by Sub-class 5.2 Structure 393. The similarity between Feature 453 and House 2 at Aztalan (Wittry and Baerreis 1958) has been discussed. While it is difficult to ascribe a function to Feature 453, it is considered more likely that the structure was used as a sweatlodge or possibly a barbacoa, rather than habitation.

Feature Cluster 6

Cluster 6 is the smallest and least complex of the Early Stirling groupings. Lying along the northeast edge of the plaza, Cluster 6 is bounded by CMG coordinates S405–415 and E460–485. Only three features are contained within these limits (Figure 5.16).

Class 2 Features—Cache/Storage Facilities

One of the three is a Sub-class 2.1 exterior storage pit. Feature 340 occupies the southernmost position in the feature triad, and is located within a few meters of the eastern of the Cluster's two structures.

Class 5 Features—Rectangular Wall-Trench Structures

Two Sub-Class 5.1 large (>11 m^2) rectangular structures complete the Cluster 6 feature inventory. These structures, Features 309 and 455, are unique among analogous Early Stirling features in that they are situated side by side, with their long axes oriented east-west, similar to the earlier Lohmann pattern. This pattern can be traced farther to the west, where the two southernmost structures in Cluster 7 continue the line. For this reason, Clusters 6 and 7 are the most tentatively defined of the Early Stirling feature complexes.

Feature Cluster 7

Feature Cluster 7 lies at the north end of the proposed Early Stirling plaza, where it is bounded by CMG cooridnates S390–415 and E440–470. The cluster contains fifteen separate features, representing nine different feature sub-classes (Figure 5.17).

Feature Class 1—Pits of Indeterminate Function

Two Class 1 features occur in Cluster 7. Feature 308, a Sub-class 1.1 pit with homogeneous single-zone fill, lies next to a Class 2 storage pit in a spot more or less central to Cluster 7's structures. Feature 259, a Sub-class 1.2 pit with multiple zone fill, occupies the westernmost position within the cluster.

Feature Class 2—Cache/Storage Facilities

Cluster 7 contains seven Class 2 features, the second highest total for this category among Early Stirling groupings.

Three of the Class 2 features are Sub-class 2.1 exterior storage pits. One (323) sits next to a Class 1 pit near the Cluster's "center." The other two occupy peripheral positions, one (343) on the northeast edge of the cluster, and one (327) on the northwest. Both Features 323 and 327 were excavated into the filled

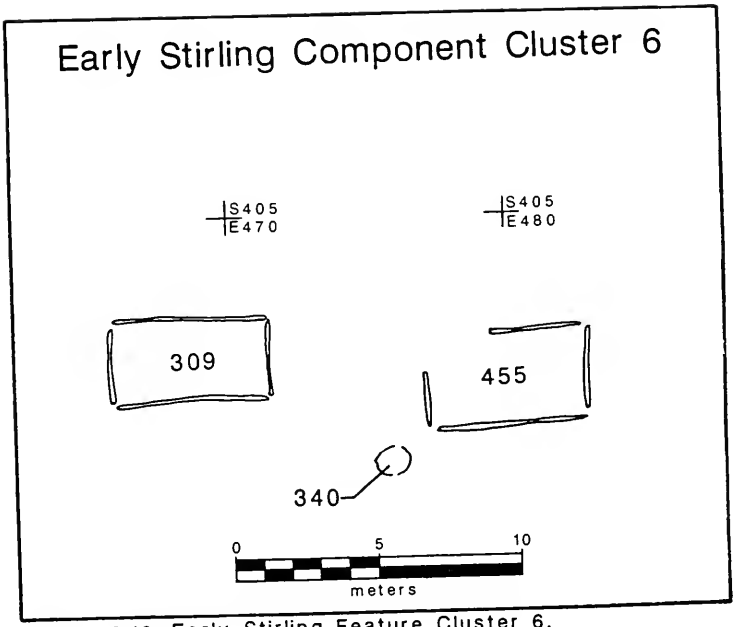


Figure 5.16. Early Stirling Feature Cluster 6.

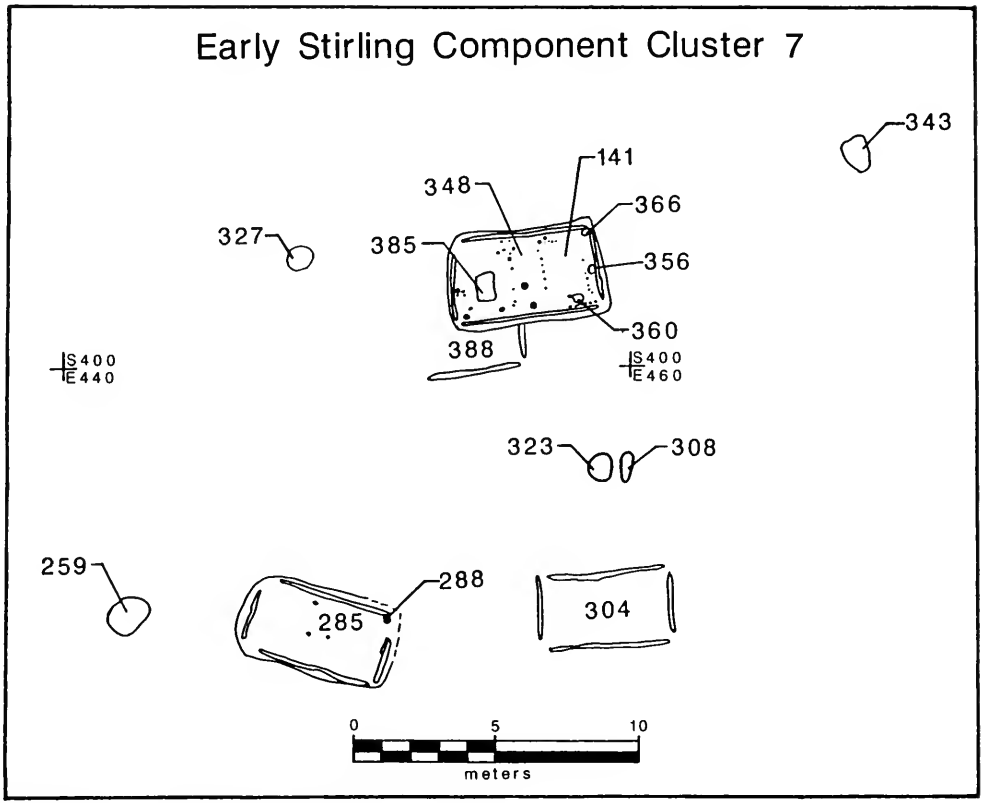


Figure 5.17. Early Stirling Feature Cluster 7.

basins of earlier Lohmann structures. Assuming the selection of previously disturbed locations to have been deliberate, the motive may have been to provide camouflage for the caches, or simply to minimize the effort required in excavation.

A single Sub-class 2.2 interior cache/storage pit is located in Cluster 7. This feature, 385, occupies a large area in the west half of Structure 348, the northernmost of the cluster's buildings.

The three remaining Class 2 features are all Sub-class 2.3 small cache pits. Two (356, 360) are found within Structure 348 near the southeast corner, where one lies along the east wall, one along the south wall. The third cache pit (288) is located in the northeast corner of Structure 285, the southwestern member of the Cluster 7 structural association.

Class 4 Features—Postmolds & Post Pits

Cluster 7 is one of only three Early Stirling clusters to include an example of this feature class. Feature 366, a Sub-class 4.2 structural post, is located in the northeast corner of Feature 348, the northernmost building in the group.

Class 5 Features—Rectangular Wall Trench Structures

Three Class 5 structures are contained within Cluster 7. Two (285, 348) are Sub-class 5.1 large (>11 m^2) structures. These two are the most widely separated of all the Sub-class 5.1 structures within an individual Early Stirling cluster. This fact again points to the tentativeness of the Cluster 6–Cluster 7 division. It is possible that the southernmost structures here included in Cluster 7, Features 285 and 304, may be related to Cluster 6. If this were the case, Feature 348 would then be the only Class 5 structure in Cluster 7. This configuration might be expected in view of the possibility that Lohmann Cluster 2, which partially underlies Early Stirling Cluster 7, seems to represent an atrophied household. The dissolution of the household may have continued into Stirling times, with the lineage or family eventually dying out or moving, thereby creating a void in the landscape. This void might then have been filled by people from outside the tract who continued to erect structures according to the traditional linear community plan. This scenario could account for the apparent linear orientation of the Early Stirling Cluster 6 structures, as well as for the southernmost of the Cluster 7 structures.

A single Sub-class 5.2 small (<11 m^2) rectangular structure completes the Cluster 7 structural inventory. Feature 304 is the southeasternmost of the cluster's buildings. Its marginal postion, and therefore, its possible relationship to the more southerly Cluster 6, have been noted.

Class 6 Features—Other Structures

Two Class 6 structures are located within the boundaries of Cluster 7. Both are Sub-class 6.3 minor domestic constructions. Feature 141, occupying a substantial area in the east half of Structure 348, has been identified as a bench. Feature 388, lying outside the southwest corner of that same structure, is interpreted as a screen. The latter is quite similar to Feature 254, described as a possible vestibule attached to Structure 233 in Cluster 3.

Non-Cluster Features

Three of the four Early Stirling features located outside defined cluster limits represent feature types not present in any of the clusters. The fourth represents a feature type present in only one other instance.

Feature 423—Sub-class 2.4 (Burial Pit)

The single burial pit, Sub-class 2.4 Feature 423, encountered at the ICT–II was associated with the Early Stirling component (Figure 4.7; Table 5.51). Located on the west side of the plaza between Clusters 4 and 5, this feature contained a single articulated individual. Feature 423 intruded into Lohmann Feature 278 to create an interesting stratigraphic situation. Examination of the stratigraphy suggests the following sequence of events: During Lohmann times, soil was removed from Feature 278, a Sub-class 7.4 borrow,

perhaps for use in house construction. The borrow was then filled with Lohmann component midden. The Early Stirling burial pit was then excavated through the accumulated midden and into sterile subsoil, and the body interred. The burial pit was then filled with relatively sterile soil. Eventually, mixed Lohmann and Stirling midden deposits accumulated in the slumped depression at the top of Feature 423.

Feature 209 —Sub-class 3.5 (Pit Oven)

One of only two Sub-class 3.5 large cooking facilities identified among Early Stirling features lay outside any defined cluster. Feature 209 is a Type 1 pit oven originally described as associated with Lohmann component Cluster 1. A deep, rectangular pit, Feature 209 contained three strata. Zone C was the lowest and contained diagnostic Lohmann materials (Holley 1989). The middle layer, Zone B, consisted of relatively sterile soil which apparently slumped into the pit from the pit walls during a period of disuse or heavy rains. Zone A, the uppermost stratum, contained materials diagnostic of the Early Stirling subphase. It is apparent that even after settlement repatterning in Early Stirling times, Feature 209 continued to function as a pit oven and may even have assumed significance in relation to the community as a whole. Feature 209 occupies a central location among features assigned to the Early Stirling component. It is situated near a center of a large, predominantly open, oval-shaped plaza area around which Early Stirling households are arranged. During Early Stirling times, Feature 209 may have served a symbolic or ritual function in the social integration of these households.

Features 30 & 228—Sub-class 6.1 (Arbors)

Features 30 and 228 are Sub-class 6.1 arbors (Table 5.71). Three-sided wall trench structures, they may have served as fair weather habitations or as work and socializing areas. Feature 30 was located south of the Early Stirling plaza between Clusters 2 and 3. The open side of the feature faced south, away from the plaza. Feature 228 was located on the north side of the plaza with its open side facing the plaza's center. Feature 228 contained a possible bench along the inner west wall. Given its location, this structure may have served as a public arbor, a place where community members congregated for social and/or ritual purposes.

Early Stirling Component Features: Some General Observations

The Early Stirling component displayed the greatest diversity of structure types of all the components represented at the ICT–II. Represented in the Early Stirling structural remains are a variety of sizes, shapes, and construction techniques. Many of the structures exhibited extensive rebuilding, often on the exact or nearly exact spot where a previous Stirling structure had stood. In addition to considerable architectural diversity, then, the Early Stirling component displays considerable spatial continuity.

The structural diversity was no doubt rooted in adjustments to accommodate continually evolving households. During the Early Stirling sub-phase, and continuing into Late Stirling times, the spatial continuity of individual feature clusters appears related to the development of familial control (ownership?) of specific plots of ground. Comparison of the Lohmann and Early Stirling settlement patterns at the tract suggests that community evolution from Lohmann to Stirling times was predicated in part on construction in previously unoccupied areas. During the Stirling phase, presumably because unoccupied space was at a premium or possibly because true land tenureship was in effect, settlement evolution seems to have been based primarily at the household level rather than within the community at large. Though community orientation did appear to change, at least by Late Stirling times, spatial positioning of feature clusters on the landscape did not.

The Early Stirling component includes 31 Class 5 structures: 17 Sub-class 5.1 rectangular wall trench structures, eight Sub-class 5.2 small rectangular wall trench structures, two Sub-class 5.3 square wall trench structures, and two Sub-class 5.4 irregularly shaped wall trench structures (refer to Table 5.56 for metric and formal summaries). Sub-class 5.1 structures continued to proliferate during Early Stirling times. Even though they were less numerous in proportion to other structural sub-classes when compared to the Lohmann component, they still represent the primary domestic building type.

A significant number of Early Stirling structures exhibited long axis orientations toward the cardinal directions. However, many other structures are aligned differently, representing a departure from the pattern characterizing the Lohmann occupation. This is true of all Class 5 structure sub-classes(see Tables 5.57–5.60 for details regarding structure orientations). It appears that the Cahokia Grid was no longer a primary criterion in the placement of structures or clusters by the Early Stirling phase.

With the apparent exception of Features 306 and 393, Sub-class 5.2 small rectangular structures, possibly built for special purposes, were located on the periphery of defined feature clusters. An interesting and possibly significant aspect of the positioning of these structures is that they are located both along the periphery of clusters, and also between feature complexes. When all other features are taken out of the Early Stirling component feature pattern, the Sub-class 5.2 structures define the same pattern as that displayed by the component composite. This tends to support two interrelated ideas: 1) that discrete households existed; and 2) that the Sub-class 5.2 structures were associated with specific households.

The reason for the architectural diversity displayed in the Early Stirling remains at the ICT–II is not known. Perhaps this phenomenon points to overexploitation of wood resources suitable for traditional construction techniques. The diversity might, then, reflect experimentation with inferior construction materials (see Lopinot 1988).

Late Stirling Component Features (n=61)

The Late Stirling feature assemblage (Figure 5.18) includes examples of all seven major feature classes and sixteen sub-classes (Table 5.75). Many features included in the "General Stirling" category probably belong in the Late Stirling category, but given their ambiguous archaeological contexts, this could not be demonstrated.

It is probable that the Early Stirling feature clusters continued to evolve during the Late Stirling occupation of the ICT–II. While the composition of these clusters changed in terms of the variety and number of feature classes represented, the spatial configuration and location of the clusters did not change (cf. Figures 5.10 and 5.19). Each of the Late Stirling clusters can be traced from an Early Stirling antecedent. For this reason, Late Stirling feature clusters are identified by the same numerical designators as their corresponding Early Stirling precursors. The only exception involves Cluster 7, the remains of an Early Stirling household that had atrophied.

Sixty-one features have been identified as belonging to the Late Stirling component. All are contained within one or another of the six feature clusters. In general, the Late Stirling clusters appear somewhat less complex and less variable than their Early Stirling counterparts. The largest Late Stirling cluster contains fewer features than four of the Early clusters, while the smallest Late clusters contain more features than the smallest Early cluster.

Feature Cluster 1

Occupying the west side of the open plaza area, Feature Cluster 1 is one of the most complex of the Late Stirling aggregates (Figure 5.20). Twelve discrete features are present, representing nine different feature sub-classes.

Class 1 Features—Pits of Indeterminate Function

A single Class 1 feature occurs in Cluster 1, one of only four examples in the Late Stirling assemblage. A Sub-class 1.1 pit with homogeneous single-zone fill, Feature 113 is located near the southern cluster edge. Since it overlays the wall trenches of Late Stirling Structure 430, the pit may be more closely related temporally and functionally with one of the other structures in the cluster.

Class 2 Features—Cache/Storage Facilities

Cluster 1 contains nine Class 2 features, more than twice the number found in any other Late Stirling cluster. Four of these features represent Sub-class 2.1 exterior storage/cache pits, comprising 80% of the Late Stirling total for this specific type. Features 105 and 107 were located south of the Cluster 1

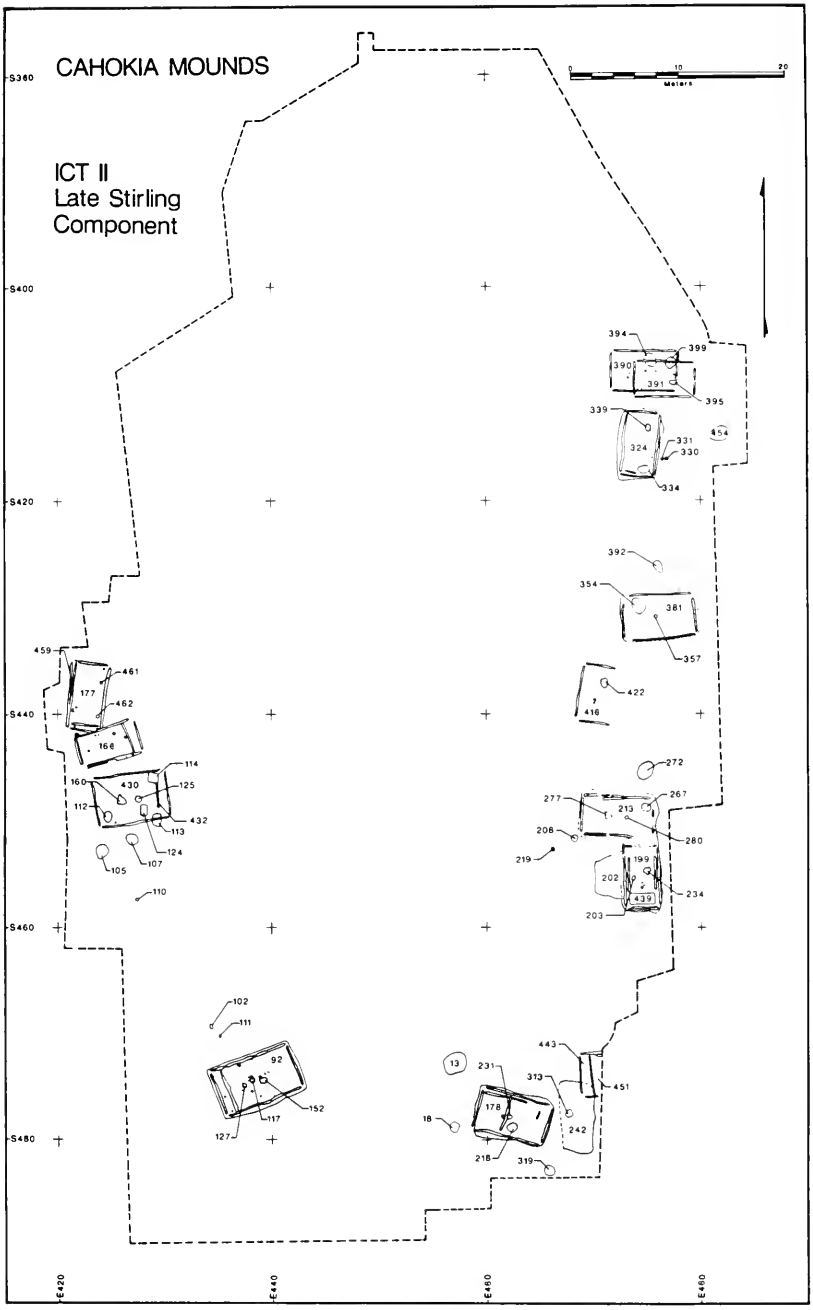


Figure 5.18. Distribution of Late Stirling component features.

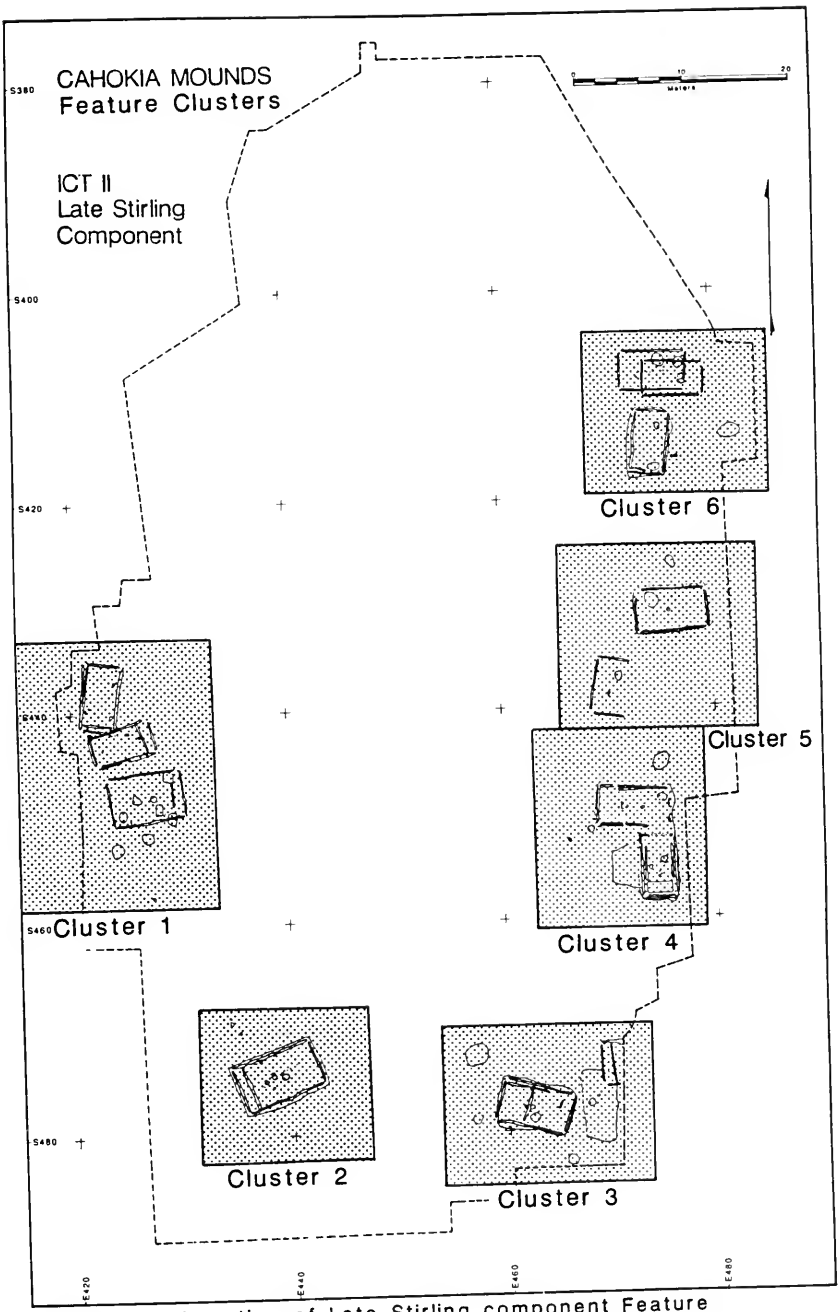


Figure 5.19. Location of Late Stirling component Feature Clusters 1-6.

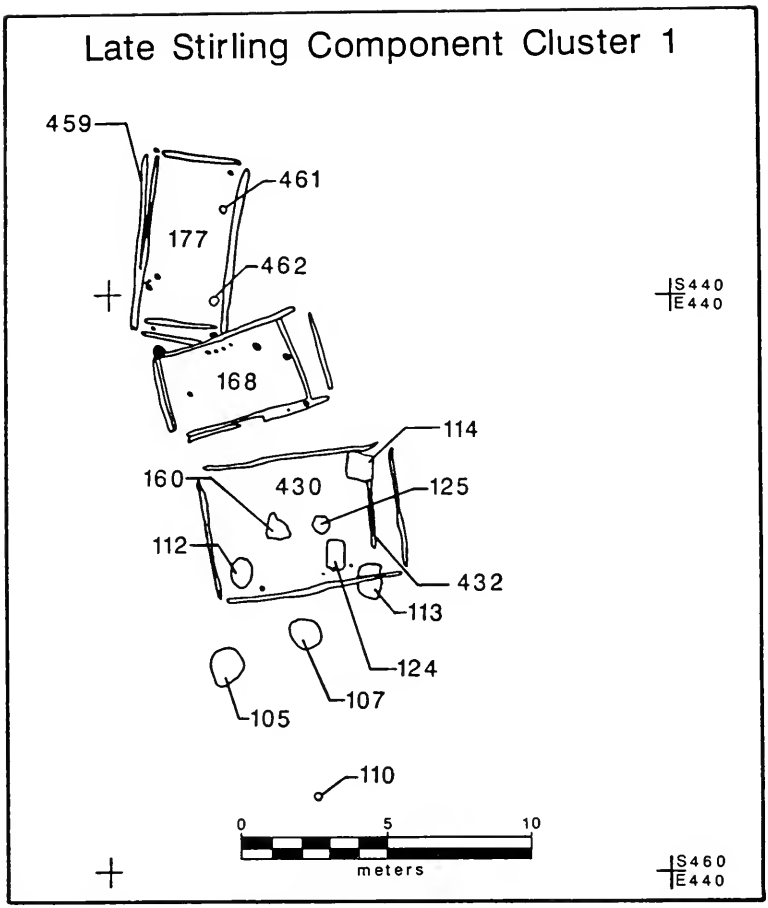


Figure 5.20. Late Stirling Feature Cluster 1.

structures and could be associated with any of them. However, the pattern of superpositioning and continuity of use displayed by Features 105 and 107 (Late Stirling), and 108 and 115 (Early Stirling), parallels the rebuilding episodes apparent in the cluster's Sub-class 5.1 structure complex (Early Stirling Features 425 and 426, Late Stirling Features 168, 177, 430). For this reason, Features 105 and 107 are considered to have been associated with Feature 430, the southernmost of the Late Stirling Cluster 1 houses.

Features 114 and 124 are considered chronologically later than Features 105 and 107 and were most likely associated with one of the northern Cluster I structures (Features 168 and/or 177). These features overlay the southern Cluster 1 structures, which must have been dismantled prior to pit excavation.

Three of the Class 2 features occurring in Cluster I are examples of Sub-class 2.2 interior cache/storage pits. Features 112, 125, and 160 were all associated with the earlier cluster buildings. Due to the complexity of the structure superpositioning in the southern portion of Cluster 1 and the difficulty of distinguishing the basins of various rebuilding episodes, it is impossible to relate two of these pits with specific structures. The exception is Feature 112, which superimposed all wall trench structures except the last of the rebuilt structures. Feature 112 was located in the southwest corner of this structure, Feature 430.

The remaining two Class 2 features are Sub-class 2.3 small cache pits. Features 461 and 462 were situated along the east wall of Structure 177, the northernmost cluster building. These features may be the relict molds of large, structural posts rather than cache pits.

Class 3 Features—Fire-Related Features

One Class 3 feature is located in Cluster I. Feature 110, a Sub-class 3.1 hearth, was situated well to the south of most of the Late Stirling structures in this cluster, and may be associated with Feature 430, the earliest and southernmost of the Late Stirling structures. The hearth was built on the filled basin of an Early Stirling structure (Feature 97).

Class 5 Features—Enclosed Wall Trench Structures

Three Late Stirling Sub-class 5.1 structures are included in Cluster 1 (Figure 5.20; Table 5.88). In order of aboriginal occupation, these were Features 430, 177, and 168. It is possible that Feature 430 was occupied at the same time as one of the other two, but this would be difficult to substantiate. Feature 430 is superimposed by a number of Late Stirling pits presumed to have been associated with either Structure 177 or 168. The north wall trench of Feature 168 superimposed the southeast corner of Feature 177. This evidence suggests that Feature 168 was the latest of the Cluster I structures. Holley (1989) has also determined that the latest ceramics from Cluster I were those recovered from the Feature 177 basin. Feature 168 had no basin.

Four postmolds, located inside the north wall of Feature 168, where that wall intersects the Feature 177 basin, may indicate that the basin was still at least partially extant when Structure 168 was built. The four posts probably supported the north wall of Feature 168, perhaps needed when the wall began to slump into the basin of Feature 177. It seems most likely that: 1) the basin of Feature 177 was filled but not compacted prior to the building of Feature 168; 2) when the basin fill began to compact, it affected the integrity of the north wall of Feature 168; 3) the wall was then shored up by the four posts; and 4) as the Feature 177 basin fill compacted, it created a depression that was eventually filled with debris created by Structure 168's occupants.

Each of the Cluster I structures contained a bench trench parallel to one of the short axis walls. The bench was located along the east wall in Structures 168 and 430, and along the south wall in Structure 177.

The point(s) of reference governing the orientation of Cluster I structures is not known. They appear to be arranged haphazardly, with no apparent regard for reference points outside the toft. It is possible that these structures are oriented according to some feature beyond the confines of the ICT–II.

Class 6 Features—Other Structures

Four Class 6 features are contained in Cluster 1. All belong to Sub-class 6.3. Three of the four are benches located inside structures. Feature 432 (the only one of the three to be assigned a separate feature number)

parallels the east (short-axis) wall of Structure 430. The other two benches occupy analogous positions, one paralleling the east wall of Structure 168 and one running along the south wall of Structure 177. The fourth Class 6 feature in Cluster 1 is 459, a trench lying immediately west of, and not quite parallel to the west (long axis) wall of Structure 177. It is thought to mark a screen foundation.

Feature Cluster 2

Cluster 2, at the south end of the open plaza area, is one of the two smallest Late Stirling feature aggregates (Figure 5.21). It includes only six features, representing five different feature sub-classes.

Class 1 Features—Pits of Indeterminate Function

Feature 102, the single representative of this class is a Sub-class 1.1 pit with homogeneous, single-zone fill. Located several meters north of the cluster's only structure, the pit is superimposed on an Early Stirling structure.

Class 2 Features—Cache/Storage Facilities

Two examples of this class occur in Cluster 2. Features 127 and 152 are Sub-class 2.3 small cache pits located inside Structure 92. Feature 152's location at the approximate center of the structure raises the possibility that it may be a structural post pit. Feature 127 was situated slightly west of center within the building.

Class 3 Features—Fire-Related Features

Cluster 2 included one Class 3 feature. A Sub-class 3.1 hearth, Feature 117 is located inside the cluster's one structure, where it lies slightly west of center.

Class 4 Features—Postmolds & Post Pits

One of five Late Stirling Class 4 features is found in Cluster 2. A Sub-class 4.1 patio/door post, Feature 111 is located a few meters north of the cluster's single structure.

Class 5 Features—Enclosed Wall Trench Structures

The only structure present in Cluster 2 is Feature 92, the largest of the enclosed rectangular (Sub-class 5.1) structures excavated at the tract. In addition to the hearth and cache pits described above, the structure included a large bench trench parallel to the west (short axis) wall. An interesting aspect of Feature Cluster 2, in both its Early and Late Stirling manifestations, is that there were no sizable storage facilities associated with the structures.

Late Stirling Structure 92 is oriented with its long axis running generally east/northeast–west/southwest. A significant determinant of the structure's orientation is probably the proximity of a large, low profile mound (Mound 107) immediately south of the ICT–II excavation block (Figure 5.23). This mound was first documented in 1984 during testing at the ICT–II (Woods 1985a). Additional testing focused on the mound and its southern periphery in 1986. During the testing, the remains of a Late Stirling building were encountered on the south central part of the mound. It is probable that the occupant of this structure was an individual of some importance to the ICT–II Late Stirling community. Parallels between this archaeological situation and ethnohistorical accounts of southeastern Indian settlements are striking, as exemplified in the following excerpt:

> You may know therefore that the Indians of Florida always try to dwell on high places, and at least the houses of the lords and Caciques are so situated even if the whole village cannot be. But since all of the land is very flat, and elevated sites which have the various other useful conveniences for settlements are seldom found, they build such sites with the

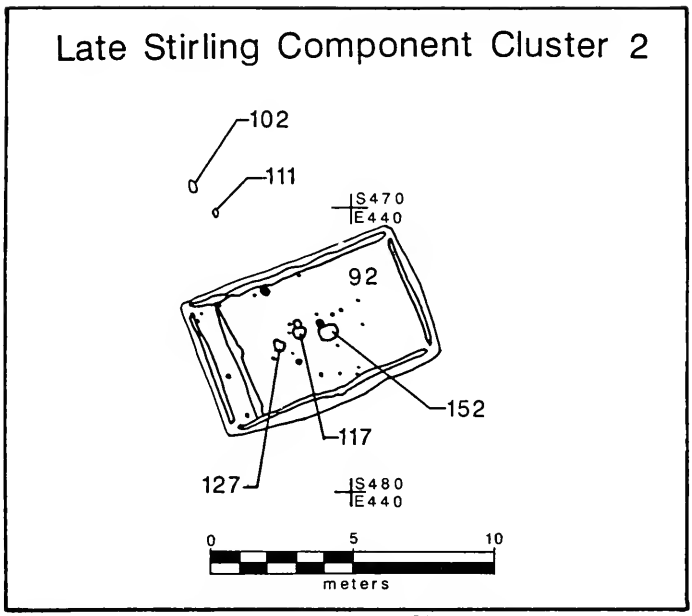


Figure 5.21. Late Stirling Feature Cluster 2.

> strength of their arms, piling up very large quantities of earth and stamping on it with great force until they have formed a mound from twenty-eight to forty-two feet in height. On the top of these places they construct flat surfaces which are capable of holding the ten, twelve, fifteen or twenty dwellings of the lord and his family and the people of his service, who vary according to the power and grandeur of his state. In those areas at the foot of this hill, which may be either natural or artificial, they construct a plaza, around which first the noblest and most important personages and then the common people build their homes. They make an effort not to be far distant from the site upon which the dwelling of their lord is located [Garcilaso de la Vega 1962:170-171; emphasis added].

Little imagination is required to grasp how neatly this 16th century model of intrasite settlement structure appears to fit the Late Stirling pattern at the ICT–II. All the major details of the model are present. The structure on the mound can be interpreted as the house of the local (at Cahokia, probably minor) "lord." The Late Stirling plaza, nearly identical in form and size to its Early Stirling progenitor, lies at the base of the mound. Highly suggestive of the mound's importance, a ceramic effigy of a "Long-nosed God" was recovered there during the 1984 testing.

Following Garcilaso's model, each of the Late Stirling structures encountered at the ICT–II may have represented the dwelling of a "noble and important personage." Alternatively, it could be argued that only Clusters 2 and 3 represent the abodes of the most noble and important personages because they are closest to the mound and the dwelling of their "lord." While our data are limited, they in no way contradict such an interpretation. Both Structure 92 and Structure 178 in Cluster 3 are oriented in such a way as to suggest some sort of relationship to the mound.

Feature Cluster 3

East of Cluster 2 at the south end of the tract, Cluster 3 includes ten individual features representing nine different feature types. Though not the largest or most complex of the Late Stirling clusters, aspects of location and feature composition confer a distinctive character on this group (Figure 5.22).

Class 1 Features—Pits of Indeterminate Function

Two of the four Class 1 features identified in the Late Stirling assemblage occur in Cluster 3. One is a Sub-class 1.1 pit with homogeneous single zone fill, while the second represents Sub-class 1.2, pits with multiple zone fill. The first of these, Feature 319, occupies the southernmost position within the cluster, where it overlays an Early Stirling structure. The second, Feature 313, sits within a large borrow toward the eastern cluster limit.

Class 2 Features—Cache/Storage Facilities

Cluster 3 includes a single Class 2 feature. Feature 218 is a Sub-class 2.3 small cache pit located inside Structure 178. The pit was situated along the structure's south wall and just east of a wall trench believed to have divided the structure into two rooms. This would have placed the pit in the southwest corner of the east room.

Class 3 Features—Fire-Related Features

Two fire-related features are among the members of Cluster 3. One, Feature 18, is a Sub-class 3.1 hearth which sits just off the southwest corner of Structure 178.

The second feature (No. 13), is a Sub-class 3.3 pit with associated post molds. Thought to represent a large cooking facility, this feature lies about 3 m northwest of Structure 178.

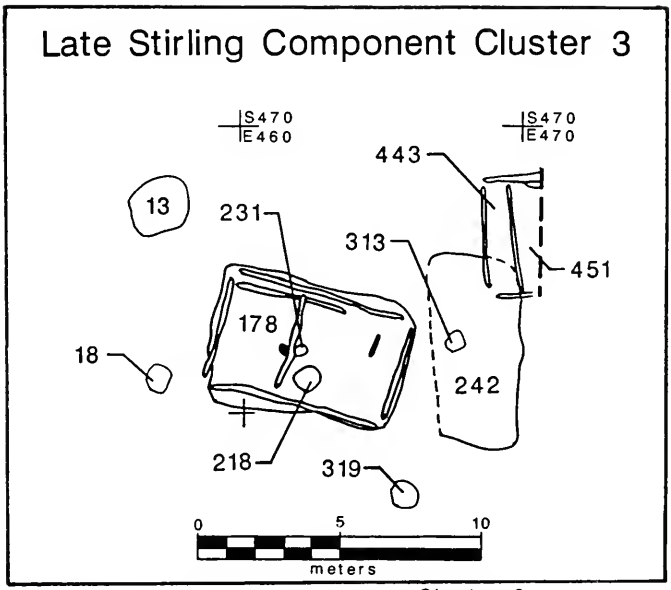


Figure 5.22. Late Stirling Feature Cluster 3.

Class 4 Features—Postmolds & Post Pits

The one Class 4 feature associated with Cluster 3 is also the only Sub-class 4.2 structural post represented in the Late Stirling feature assemblage. Found near the center of Structure 178, Feature 231 probably represents the location of a support post for the roof.

Class 5 Features—Enclosed Wall Trench Structures

Late Stirling Cluster 3 (Figure 5.22; Table 5.90) includes two Sub-class 5.1 structures, Features 178 and 443. The northeasternmost of the Cluster 3 features, only a portion of Feature 443 was located within the excavation block. It appears to have been oriented on a nearly east-west axis. The feature contained an interior bench trench (Feature 451) that paralleled the western, short axis wall. Feature 443 was superimposed on the midden accumulation designated Feature 242, and so may have been utilized later than Feature 178, the only other apparent source of Late Stirling trash in the area.

Feature 178 appears to have been oriented toward Mound 107, located immediately south of the excavation block (Figure 5.23). The structure's long axis ran generally west/northwest - east/southeast, basically the obverse of Feature 92's directional orientation in Cluster 2.

Feature 178 was the only catastrophically burned structure excavated at the ICT–II. Because of this, the artifact assemblage recovered from the structure represents the best of only a few behavioral artifact assemblages to be unearthed during the investigation. Structural elements and material artifacts were piece-plotted during the excavation of Feature 178. It has not been determined whether this assemblage represents activities reserved to individuals of elite status, or whether non-elite behavior is indicated.

One other catastrophically burned structure has been excavated and reported for Cahokia (Pauketat n.d.; 1986; 1987b). Designated House 4 and commonly referred to as the "pot house," the structure was located and excavated during 1966–1967 in conjunction with the University of Wisconsin–Milwaukee's East Stockade investigation (Anderson 1969). The structural and material assemblages recovered from House 4 and ICT–II Structure 178 are strikingly similar (c.f. Pauketat 1987b, n.d.; Holley 1989).

The location of Feature 178 in relation to Mound 107 may indicate that the structure was utilized by an individual of some importance to the local community. House 4 was situated relatively close to Monks Mound. Since the material assemblages recovered from the two structures are nearly identical, it is tempting to infer that both structures housed individuals of relatively elevated status or rank.

On the other hand, the argument that the assemblages from these two structures are typical of Stirling phase residences at Cahokia is also persuasive. Both House 4 and Feature 178 were located outside the site's stockade walls. Assuming that the stockade was both a physical and symbolic barrier, separating the high status occupants of the inner city from those of lower status, one might view the House 4 and Feature 178 assemblages as representative of the larger populace. That the two catastrophically burned structures have comparable assemblages suggests that the artifacts probably at least partially represent Stirling phase households at Cahokia. Even so, it is still possible that the occupants of these particular structures enjoyed some degree of elevated status within the societal arrangement of 'local' communities.

Another interpretation worth considering is that structures were ritually burned, perhaps upon the death of the occupant. This raises the question of whether the materials present represent a "normal" household assemblage or a special assemblage analogous to grave offerings.

Feature 178 (Figure 5.24) was a rectangular wall trench structure with three interior trenches. Two of the interior trenches represent benches, the third, a partition that divided the structure. The partition trench was superimposed on one of the bench trenches, suggesting that the internal arrangement of the house was not static. One bench trench paralleled and extended for two-thirds the length of the structure's north wall. The second, shorter bench trench was located in the northeast corner of the structure paralleling the east wall. The partition trench paralleled the short axis of the structure and divided the building into two rooms of unequal size. The smaller, western room had interior dimensions of 3.8 x 2.5 m (9.5 m^2). The eastern room was nearly square, with interior dimensions of 3.8 m x 3.8 m (14.44 m^2).

A large, central post pit probably represents a roof support. Such a post is typical of the hipped-roof architectural style (see McConaughy 1985). Carbonized red cedar wall posts were found in situ protruding from wall trenches. Because cedar posts would have been rigid, it seems evident that the structure had vertical walls. Carbonized thatch was found throughout the structure, both below and on top of artifacts

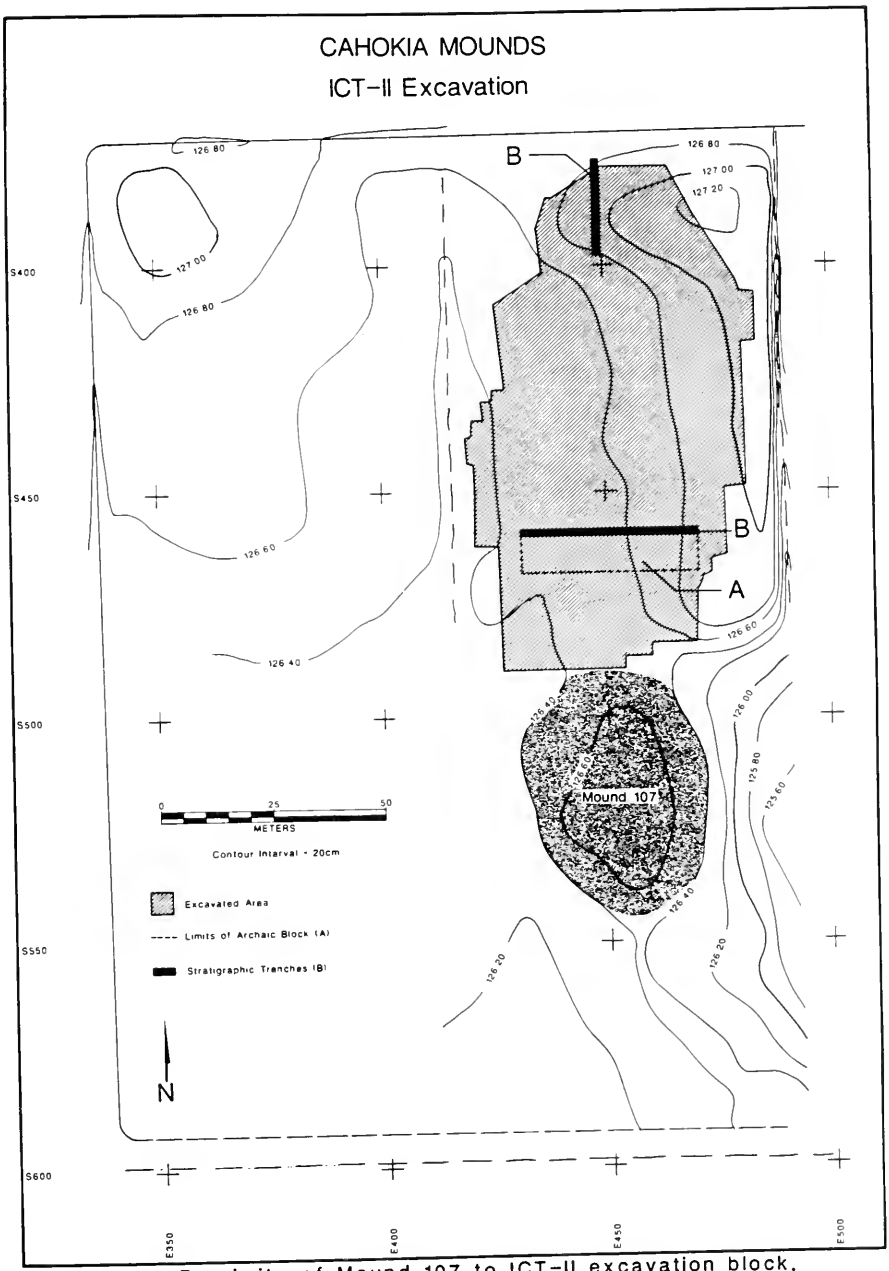


Figure 5.23. Proximity of Mound 107 to ICT-II excavation block.

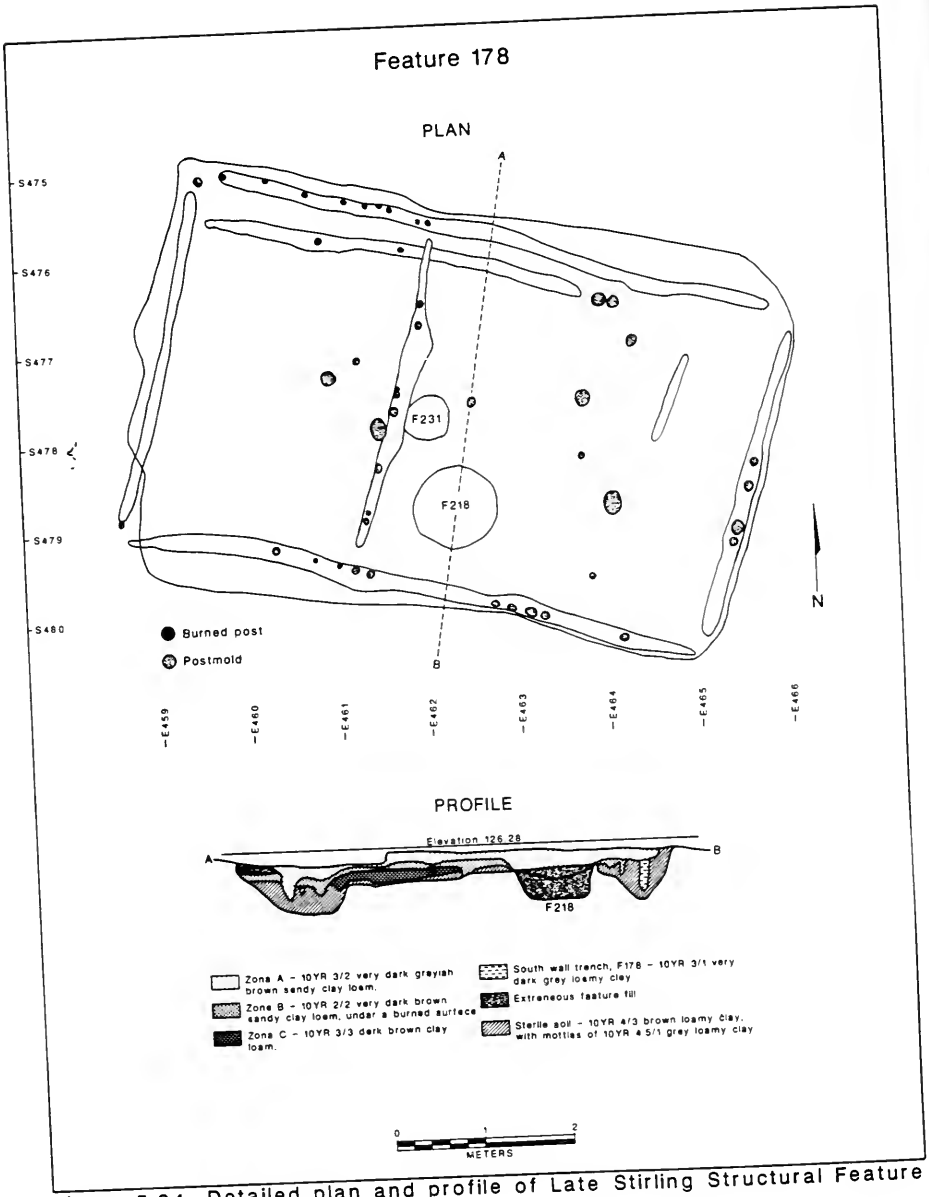


Figure 5.24. Detailed plan and profile of Late Stirling Structural Feature 178.

recovered from the floor. This probably indicates the presence of thatch mats on the walls and floor of the building.

Artifacts recovered from the floor of Feature 178 indicate that the structure's two rooms were functionally different. The floor of the smaller, western room was littered with artifacts. In several locations, whole pots were found crushed on top of one another, suggesting that some of the vessels may have been stored or hung on walls or in the rafters. The western room is viewed as a storage and work center.

The floor of the eastern room, by contrast, was characterized by relatively few artifacts. Most of the artifacts present functioned in chert tool production and wood working, although a bone bead and two Ramey vessels were also present. A cache pit (Feature 218) was located in the southwest corner of this room, but had been filled in prior to the fire and may have been used prior to the partitioning of the house. The presence of several postmolds in the east room suggests the presence of more benches (beds) in addition to that already described. With its relatively open floor space, benches, and limited artifact assemblage, the east room may have been used for sleeping, lounging, and limited tasks related to chipped stone and wood tool production and maintenance.

Class 6 Features—Other Structures

One Class 6 structure is included in Cluster 3. Feature 451, a bench trench, paralleled the west , short axis wall of Structure 433.

Class 7 Features—Other Features

The only Class 7 feature contained within the Cluster 3 boundaries is Feature 242. A large, rectangular pit, it was apparently excavated during the Early Stirling occupation of the Household 3 toft and subsequently filled with midden during the Late Stirling occupation. The reason for the excavation of this feature is not known, but it may have been a clay borrow, a partially excavated house basin, or a depressed patio or work area. This third possibility is supported by the existence of a series of Stirling pits excavated from the base of the feature. The midden which eventually filled Feature 242 most likely derived from nearby Structure 178, since the filled basin was later superimposed by Late Stirling Structure 443. The accumulation of refuse in the area of Feature 242 would be logically anticipated if Feature 314, a massive Sub-class 6.3 fence, was standing during the Late Stirling occupation. Hayden and Cannon (1983) have demonstrated that fences are often magnets for "provisionally" and permanently discarded refuse.

Feature Cluster 4

Located on the east side of the plaza area, Cluster 4 contains twelve features representing nine feature categories (Figure 5.25).

Class 2 Features—Cache/Storage Facilities

Four cache/storage facilities are associated with Cluster 4. Feature 272 is a Sub-class 2.1 exterior pit. The northernmost feature in this group, it sits just a few meters from the northeast corner of Structure 213. Features 203 and 267 are both Sub-class 2.2 interior storage pits. The former was located along the west wall of Structure 199 at the midpoint. This bell-shaped pit exhibited a very narrow orifice but it expanded below the floor of the structure to approximately twice its orifice diameter. Feature 267 was located in the northeast corner of Structure 213. Feature 280, a Sub-class 2.3 small cache pit, was located slightly east of center in Structure 213.

Class 3 Features—Fire-Related Features

Cluster 4 included three fire-related features, more than any other Late Stirling cluster. One of these, Feature 234, is a Sub-class 3.1 hearth. Occupying a position slightly north and east of center in Structure 199, the hearth was associated with a post feature.

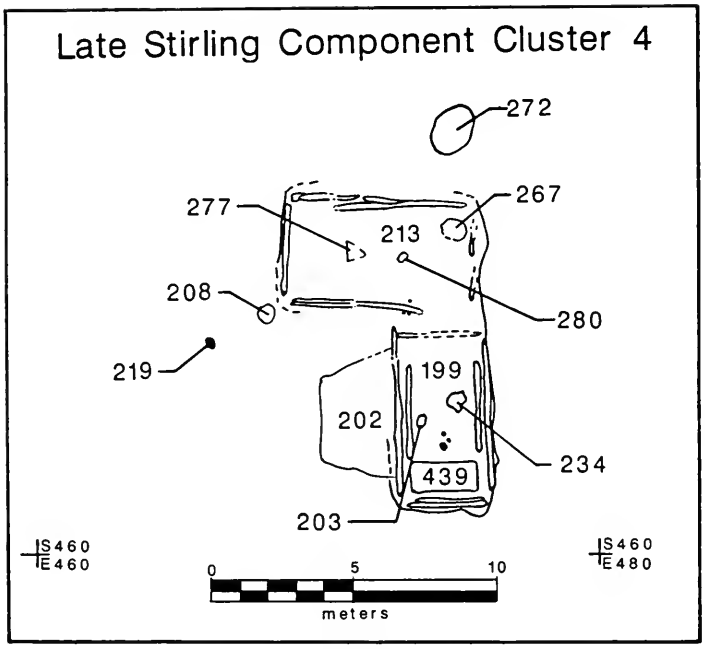


Figure 5.25. Late Stirling Feature Cluster 4.

The remaining two features are the only Sub-class 3.2 fire-pits identified among the Late Stirling remains. Of these, Feature 277 was located slightly off center within Structure 213. This placement is similar to several Late Stirling interior hearths. Feature 277 may, therefore, have been the functional equivalent of a hearth. The second firepit, Feature 208, was situated outside, but very near the southwest corner of Structure 213. This pattern parallels that observed in Cluster 3 involving Feature 18 and Structure 178. Assuming these features to have been contemporaneous, the reason for locating a firepit so close to a structure is not apparent.

Class 4 Features—Postmolds and Post Pits

One Class 4 feature is associated with Cluster 4. A Sub-class 4.1 free-standing post, Feature 219 is the westernmost member of the cluster, lying a few meters from the southwest corner of Structure 213.

Class 5 Features—Enclosed Wall Trench Structures

Two Sub-class 5.1 structures, Features 199 and 213, were situated within Late Stirling Cluster 4 (Figure 5.25; Table 5.91). These structures were oriented to the cardinal directions and at right angles to one another. They are assumed to have been contemporaneous and *may* have been connected by a "breezeway-like" entrance, possibly roofed.

Structure 213, the east–west oriented member of the pair, exhibited several interior features (previously described). The structure was superimposed on a number of Early Stirling features. Wall trenches associated with the structure were discontinuous in some areas and partially rebuilt (rehabilitated?) in other areas. The complex pattern of superimposed structures and other features may partially account for this pattern.

Structure 199, the building oriented north–south, was architecturally interesting and complex. The north wall trench was partially destroyed by excavation of pits during the Moorehead phase, but it was still possible to tell that the west wall trench extended beyond the north trench. This supports the idea that a (covered) entry may have been shared by Features 199 and 213, with the extended west wall of the former providing a constricted threshold. Immediately west of Feature 199 was a symmetrical basin (Feature 202) interpreted as a ramada. No structural elements were evident. Except for its location outside the west wall of Structure 199, this basin could not be distinguished from that structure's basin. This suggests that the two features were connected. Apparently, the foundation elements for Feature 202 did not extend below the plowzone.

Feature 199 included interior trenches that paralleled the structure's south, east, and west walls. In each case, these trenches were located too close to the exterior wall trenches for them to mark bench locations. They may have been the foundations of supports for a loft. The trenches that parallel the east and west walls are particularly suggestive in this regard. They were equal in length and parallel to one another. A large, structural post between these trenches at their southern ends may have served as both a loft support and a ladder.

A bench-like deposit of nearly sterile clay was evident in the southern half of Structure 199. This unusual deposit (Feature 439) occurred between the south end of the two parallel interior trenches and the south wall trench. This soil is probably derived from the excavation of the cache/storage pit previously described. This bench-like clay deposit could have provided a convenient access step into the loft.

Bartram (1955:168) describes a historic structural complex with some similarities to that contained in Cluster 4:

> The town of Cuscowilla, which is the capital of the Alachua tribe, contains about thirty habitations, each of which consists of two houses nearly the same size, about thirty feet in length, twelve feet wide, and about the same in height. The door is placed midway on one side or in the front. This house is divided equally, across, into two apartments, one of which is the cook room and common hall, and the other the lodging room. The other house is nearly of the same dimensions, standing about twenty yards from the dwelling house, its end fronting the door. The building is two stories high, and constructed in a different manner. It is divided transversely, as the other, but the end next to the dwelling

> house is open on three sides, supported by posts or pillars. It has an open loft or platform, the ascent to which is by a portable stair or ladder: this is a pleasant, cool, airy situation, and here the master chief of the family retires to repose in the hot seasons, and receives his guests or visitors. The other half of this building is closed on all sides by notched logs; the lowest or ground part is a potato house, and the upper story over it a granary for corn and other provisions.

At least one two-story building was also common among multi-structure Creek households:

> The last is commonly two stories high, and divided into two apartments, transversely, the lower story of one end being a potato house, for keeping such other roots and fruits as require to be kept close, or defended from the cold in winter. The chamber over it is the *council* [Squier 1853:56; emphasis in original].

Class 6 Features—Other Structures

The single Class 6 structure occurring in Cluster 4 has already received consideration (see above). Feature 202, a Sub-class 6.1 ramada, adjoins the west side of Structure 199. The absence of structural elements in or around this feature basin suggests a porch-like structure used on a limited, perhaps seasonal, basis.

Class 7 Features—Other Features

The one Class 7 feature included in Cluster 4 has been described (see above). Feature 439 is a Sub-class 7.3 "unique feature," a concentration of hard-packed clay along the inner south wall of Structure 199. It may represent a clay bench. Alternatively, it may have facilitated entry to the proposed second story or loft of Feature 199. A third possibility is that clay excavated from pit Feature 203 was simply deposited in this area of the house, resulting in the inadvertent creation of Feature 439.

Feature Cluster 5

Located on the east side of the proposed plaza area, Cluster 5 is one of the two smallest Late Stirling feature cluster. It includes six separate features, representing five different feature categories (Figure 5.26).

Feature Class 2—Cache/Storage Facilities

Two examples of this feature class occur in Cluster 5. Both are Sub-class 2.2 interior cache/storage facilities. Of these, Feature 433 is contained within the three-sided Structure 418. The second Class 2 feature, No. 354, is a large pit located in the northwest corner of Structure 381.

Feature Class 3—Fire-Related Features

A single fire-related feature is found in Late Stirling Cluster 5. A Sub-class 3.1 hearth, Feature 357 is located near the center of Structure 381.

Class 5 Features—Enclosed Wall Trench Structures

Feature 381 is the one Class 5 structure included in Cluster 5. A Sub-class 5.1 building, Feature 381 was oriented roughly east–west along its long axis. It was the last of a series of Stirling structures occupying this spot. Some of these structures shared common wall trenches or trench positions. Feature 381 contained a centrally located hearth and a large cache/storage pit in the northwest corner.

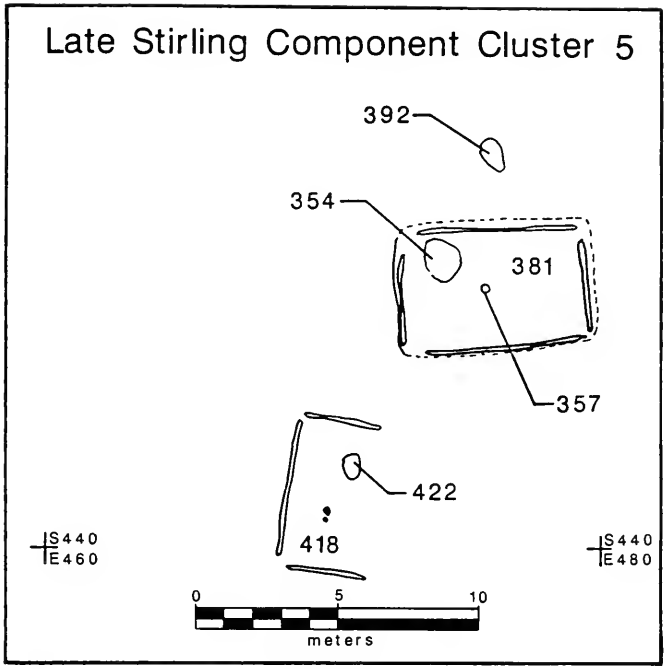


Figure 5.26. Late Stirling Feature Cluster 5.

Feature Class 6—Other Structures

Cluster 5 included one of five Late Stirling Class 6 structures. The southern of the two structures found in Cluster 5, Feature 418 is a three-sided building that may have functioned as an arbor. Like most other such structures at the ICT–II, the open side of Feature 418 faced away from the open plaza. A large cache/storage pit occupied the northeast quadrant of the structure.

Feature Class 7—Other Features

One of the five Class 7 features identified as belonging to the Late Stirling component is found in Cluster 5. A Sub-class 7.2 fill feature located just north of Structure 381, Feature 392 consisted of a discrete concentration of material within a complex series of superimposed features. This concentration of artifacts may simply mark the location of refuse disposal.

Feature Cluster 6

The northernmost of the Late Sitrling clusters, this aggregate is located at the northeast "corner" of the open plaza area. The cluster included ten features representing six different feature classes (Figure 5.27).

Class 2 Features—Cache/Storage Feacilities

Four Class 2 features are found in Cluster 6. Two of these are Sub-class 2.2 interior pits. One, Feature 334, was situated in the southeast corner of Structure 324, the southernmost building in the cluster. Feature 334 contained a cache of materials including a hoe of Mill Creek chert, the scapula of a white-tailed deer, possibly used as a hoe, and a set of white-tailed deer antlers which could have served as a rake. All in all, Feature 334 contained what may have been a gardening tool kit (cf. Wilson 1987). The contents of Feature 334 argue persuasively for the generic use of Sub-class 2.2 features as cache/storage facilities.

The second Sub-class 2.2 feature, 394. was located against the north (long axis) wall of Structure 390 just east of center. Certain materials recovered from Feature 394, including an antler baton (Kelly 1988), suggest deliberately cached goods. However, this is not as clear-cut as in the case of Feature 324.

The remaining Class 2 features both represent Sub-class 2.3 small cache pits. Feature 339 lay in the northeast quadrant of Structure 324, while Feature 395 occupied a similar, though slightly more central position within Structure 391.

Class 4 Features—Postmolds & Post Pits

Two of the four Sub-class 4.1 free-standing plaza/patio posts identified among Late Stirling remains occur in Cluster 6. Features 330 and 331 comprise a pair of post pits located immediately west of Structure 324, and possibly identify that structure's entrance. The significance of the post pits themselves is unknown, though, among other things, they may mark the locations of standards or mortars.

Class 5 Features—Enclosed Wall Trench Structures

Late Stirling Cluster 6 (Figure 5.27; Table 5.93) includes three Sub-class 5.1 structures, Features 324, 390, and 391. Of these, the first may have been paired with one of the other two. The long axis of Feature 324 ran roughly north–south and perpendicular to Structures 390 and 391. Feature 324 contained, and was associated with, several other features, described elsewhere in this section.

Structure 390, located north of 324, and oriented east–west, featured a large cache/storage pit roughly midway along the north wall trench. Arcing postmold patterns on the structure's floor may indicate house furniture or building supports. Features 390 and 391 were superimposed upon both large free-standing posts located within the earlier Lohmann plaza. Alternatively, the arcing postmolds visible at the floor level of Features 390 and 391 may not have been associated with these structures at all, being related instead to the earlier plaza posts.

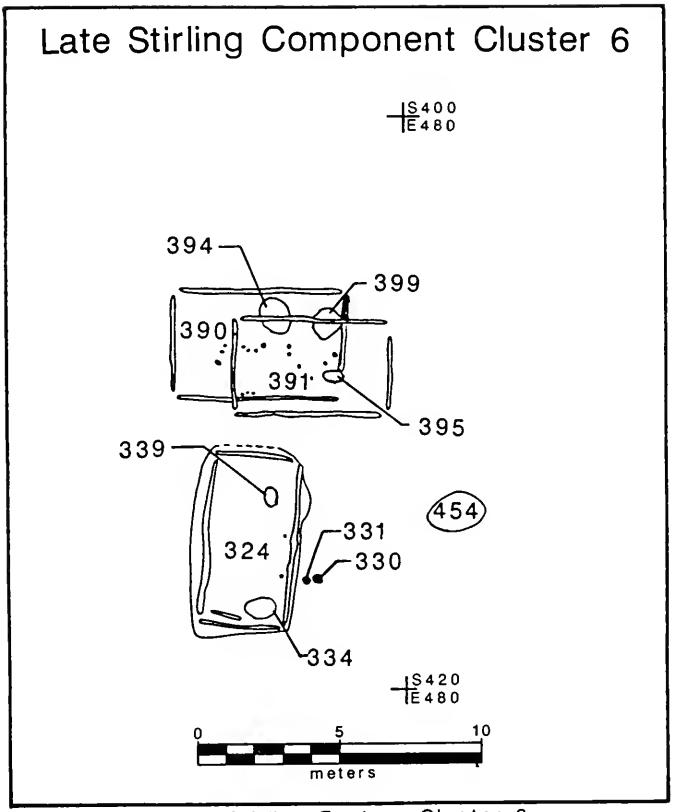


Figure 5.27. Late Stirling Feature Cluster 6.

Feature 391 was constructed along the same directional axis as Feature 390, and appeared to be a later, somewhat offset reconstruction of that structure. One cache pit was situated in the southeast quadrant of the building.

Class 7 Features—Other Features

Of the five Class 7 features identified among Late Stirling remains, two occur in Cluster 6. Of these, Feature 399 belongs to Sub-class 7.3, the category to which unique features are consigned. A shallow basin superimposing a very large post pit, Feature 400, Feature 399 was clearly a filled depression in the floor of Structure 390. The depression was created as the fill in the post hole settled during the occupation of House 390.

The second Class 7 feature, 454, represents Sub-class 7.4, large amorphous midden-filled depressions. This large, oval, shallow basin exhibits all the characteristics of a Sub-class 1.1 pit, except that its long axis dimension is greater than 2 m. Feature 454 may have been a clay borrow, but also could have been used for other purposes.

Late Stirling Component Features: Some General Observations

Of the various Class 5 structures originally defined, only examples of Sub-class 5.1 appear in the remains of the ICT–II Late Stirling component (Table 5.86). This contrasts considerably with the diversity of Class 5 structures represented in the Early Stirling assemblage. As was evident in the pattern of the Early Stirling component, some Late Stirling structures exhibited long axis orientations that approximated cardinal directions (Table 5.87). This was the case with many of the structures associated with clusters on the east side of the tract. Other structures appear to have been oriented haphazardly, or possibly in reference to other community features lying outside the block excavation area.

The twelve Late Stirling structures were arranged individually or in pairs, within feature clusters that corresponded spatially with antecedent Early Stirling complexes (Figure 5.19). This affirmation of the earlier Stirling community pattern suggests a continuation of the apparent pattern of lineage-based tenureship of specific plots.

Early Stirling Cluster 7 did not continue into the Late Stirling sub-phase. During the Late Stirling occupation, the Cluster 7 area was a void in the landscape. The fact that this area was no longer utilized for domestic purposes may suggest that demographic pressures at the site, or at least in the vicinity of ICT–II, had lessened to a degree by the end of the Stirling phase.

The proposed Early Stirling plaza, represented by a large open area between feature clusters, remained a plaza area during the Late Stirling subphase. However, unlike the Early Stirling occupation, the Late Stirling plaza apparently did not contain public facilities. A possible exception was a large plaza post, Feature 191 (see General Stirling discussion below).

General Stirling Component Features (n=73)

The General Stirling category includes features which could not be unequivocally assigned to either the Early or the Late component. Most of these features could have been in use at any time during the Stirling occupation of the ICT–II. In some instances, however, there is circumstantial evidence for more precise chronological placement. These situations will be discussed, when pertinent, below. Each of the seven major feature classifications and sixteen of the twenty-seven sub-classes (Table 5.99) are represented in the General Stirling component (Figure 5.28).

Class 1 Features—Pits of Indeterminate Function

Forty-one Class 1 pits are included in the General Stirling component. These consist of 37 pits with homogeneous single-zone fill (Sub-class 1.1), one pit with multiple zone fill (Sub-class 1.2), and three shallow basins with associated postmolds (Sub-class 1.3) (Tables 5.100, 5.101, and 5.102). With few exceptions, Class 1 pits were located near defined Stirling feature clusters and no doubt are associated with either Early or Late manifestations of those clusters. The exceptions are Features 214, 241, and 255. These

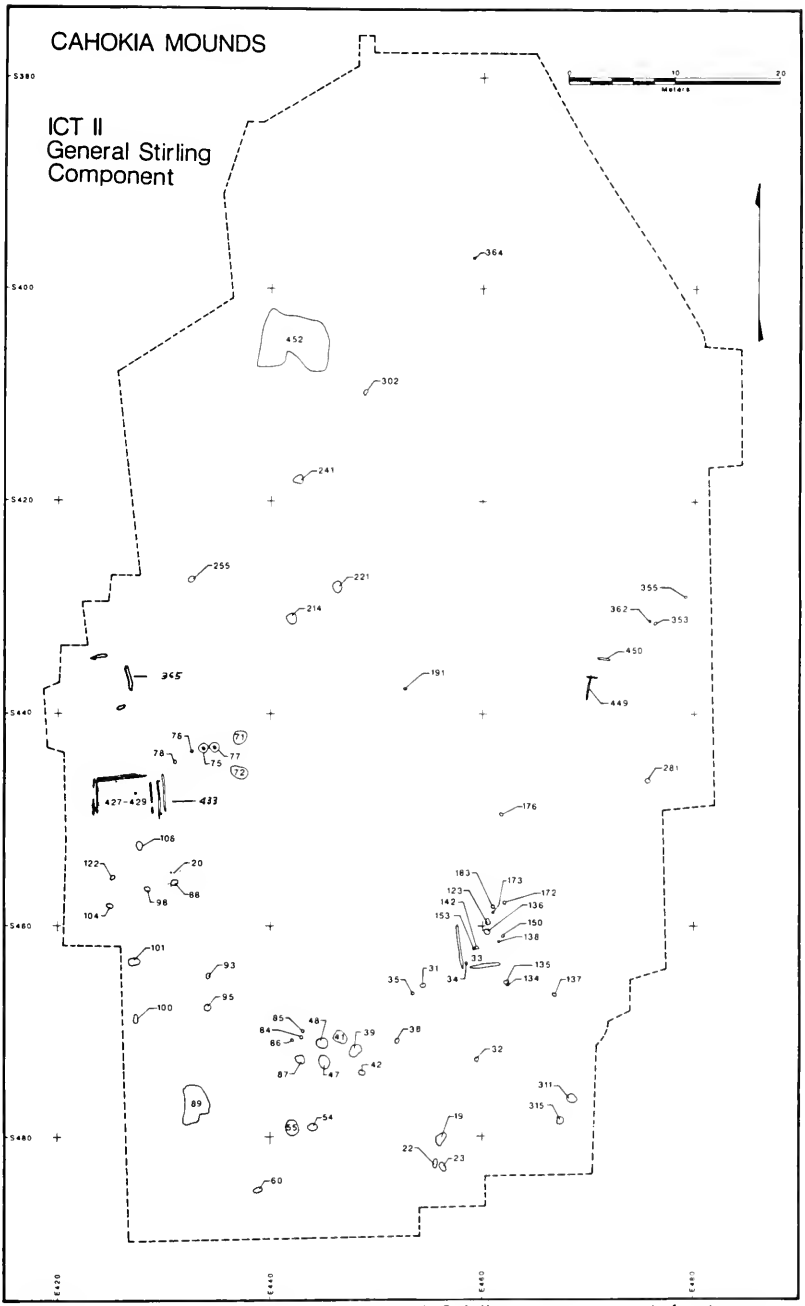


Figure 5.28. Distribution of General Stirling component features.

Sub-class 1.1 features are all located in the northwest portion of the proposed Stirling plaza, well away from any cluster. Of the remaining Sub-class 1.1 features, the following associations are likely:

Cluster	*Feature Number*
1	72, 78, 88, 98, 104, 106, 122, (101)
2	39, 41, 42, 47, 54, 55, 60, 84, 85, 86, 87, 93, 100, (101)
3	19, 23, 31, 32, 35, 38, 134, 135, 137, 311, 315
4	281
7	364

Morphological and spatial evidence suggest that some of these features (31, 35, 78, 84, 85, 86, 137) were used to support wooden mortars.

The single example of Sub-class 1.2, Feature 302, was superimposed upon Early Stirling Structure 285 in Cluster 7. Sub-class 1.3 pits with associated postmolds were located in the areas of Clusters 2 and 3. Feature 95 was contained by Cluster 2 Structure 99 and may have been superimposed on a wall trench. Features 48 and 22 were located in the toft areas of Clusters 2 and 3 respectively.

Class 2 Features—Cache/Storage Facilities

Two Class 2 cache/storage facilities are included in the General Stirling component. These are Feature 221, a Sub-class 2.1 exterior cache/storage pit (Table 5.103), and Feature 362, a Sub-class 2.3 small cache pit (Table 5.104). Feature 221 was located in the northwest portion of the proposed Stirling plaza, fairly close to Feature 228, a possible public arbor. These features may be related to one another somehow, but this has not been demonstrated. Feature 362 was associated with one of the several rebuilding episodes of Cluster 5 Structures 349, 380, and 381. The proposed cache pit was centrally located within the structure complex, but its association with a particular structure could not be determined.

Class 3 Features—Fire-Related Features

The General Stirling component includes nine Class 3 fire-related features, of which two are Sub-class 3.1 hearths (Table 5.105) and seven are Sub-class 3.4 smudge pits (Table 5.106). Together with Feature 34, a Sub-class 4.1 plaza/patio post, and Feature 33, a Sub-class 6.3 rack, the General Stirling fire-related features represent an interesting data set, one which clearly reflects a specific activity.

All of the Class 3 features were located close to one another in the southeastern quadrant of the tract, and all were situated in such a way as to superimpose the filled basin of Lohmann Structure 133. The positioning of the hearths and smudge pits within the basin fill was probably intentional, as the softer ground may have facilitated excavation. The deep basin of Structure 133 had probably also settled by Stirling times, creating a depression attractive for smudging activities. Smoke is less likely to dissipate in the wind if a fire is built in a depression, and such fires are more easily controlled. The close juxtapositioning of the hearths and smudge pits in a roughly 6 x 4 m area suggests that these features composed a hide smoking activity set.

The following is an account of the hide dressing procedure in use among the Indians of the southeast:

> According to personal information, skin dressing was anciently an occupation of both men and women, though in later years it has fallen entirely upon the women. The skin was first separated from the flesh by means of sharp stones, and in later times with knives and hatchets. Then it was hung on a framework of poles to dry, and afterward taken down and soaked in water for about 2 days. Then it is put back in the frame and scraped on the outside so as to make it smooth, the implement used being either a knife or a two handled scraper. . . Then the skin was again allowed to dry. After that, they put water and dried deer brains into a pot and heated the mixture without letting it come to a boil. The skin was immersed, the liquid allowed to soak up into it and it was then squeezed out again,

> the process being repeated many times, for perhaps an hour. It was again stretched on the frame to dry and was then found to be soft. Next, they scooped a hole in the ground, built a fire in it, and put corncobs upon this so that a thick smoke was produced with little flame. The hide was fastened down over this pit with the outer surface down and left until it was smoked yellow. They then procured red oak bark, boiled it for some time in water, and allowed to cool. Into this the deerskin was plunged and allowed to remain for perhaps a day, after which it was taken out and hung up for final drying. The moccasins, leggings, and other deerskin clothing were made of this, and, so processed, they would not get hard when wet. . . . It appears the process varied very little from that in vogue among the Natchez, and, indeed, there seems to have been little variation over most of the eastern part of North America [Swanton 1946:445].

This passage describes the typical variety of facilities necessary for hide curing. All appear archaeologically in the proposed hide processing feature set at the ICT–II (Figure 5.29). The various components of the archaeological hide processing set, in order of proposed use, are as follows:

1) Feature 34: A Sub-class 4.1 double post feature. Post diameters, as determined from the postmolds, were 18 cm and 23 cm. The posts were situated side by side (separated by less than 5 cm) and are considered to represent a single facility. This facility is thought to have been a hanging rack used for skinning. The most efficient manner for removing the hide is to hang the animal.

2) Feature 33: Sub-class 6.3 Feature 33 consists of two perpendicular trenches. These trenches represent a rack. Based on the procedure outlined by Swanton, fresh hides were probably hung on this rack to dry, to be scraped, and to stretch. It is possible that Feature 33 served coincidentally as a wind screen protecting the smudge area.

3) Features 123 and/or 136: Sub-class 3.1 hearths may have been used to heat the mixture of dried brains and water used to soften the hide. After the hides were smoked, these hearths may have been used again to boil the bark and water used for final curing.

4) Features 138, 142, 150, 153, 172, 173, and 183: Sub-class 3.4 smudge pits used for smoking the hides.

The hide processing area is situated on the southeastern edge of the proposed Stirling plaza between Feature Clusters 3 and 4. Both clusters contain Early and Late Stirling elements. Two lines of evidence suggest that the processing area dates to Early Stirling times. First, the Lohmann Structure 133 basin would have been more evident (perhaps as a depression) as a suitable location for the smudge area early in the Stirling phase. Second, Early Stirling Feature 162 was excavated into the basin of Feature 133. A Sub-class 7.2 fill feature, it included a concentration of deer bone (and some ceramics). The presence of butchered deer elements would be expected in close association with a deer hide processing area.

Class 4 Features—Postmolds & Post Pits

The General Stirling component includes six Class 4 post features. Of these, five are Sub-class 4.1 free-standing posts (Table 5.107) and one is a structural post (Table 5.108).

Features 75, 76, and 77 are large patio post pits in the toft area of Stirling Cluster 1. They were situated in a rough line immediately south of Early Stirling Structure 179. Feature 191 was the pit of a large free-standing post located in the center of the Stirling plaza. This post could have been a focal point during both (or either) the Early Stirling and Late Stirling subphases.

The single structural post included in the General Stirling component was associated with either Early Stirling Structure(s) 349/380, or Late Stirling Structure 381, both in Cluster 5.

Class 5 Features—Enclosed Wall Trench Structures

The General Stirling component includes three Class 5 features (427, 428, 429), all Sub-class 5.1 large rectangular structures (Tables 5.109 and 5.110). The three are components of a rather confusing complex of superimposed features in Stirling Cluster 1. All represent sequential rebuilding episodes at the same location. These three buildings existed in the period following the occupancy of Early Stirling Structure 426 and before the occupancy of Late Stirling Structure 430, both of which also occupied the

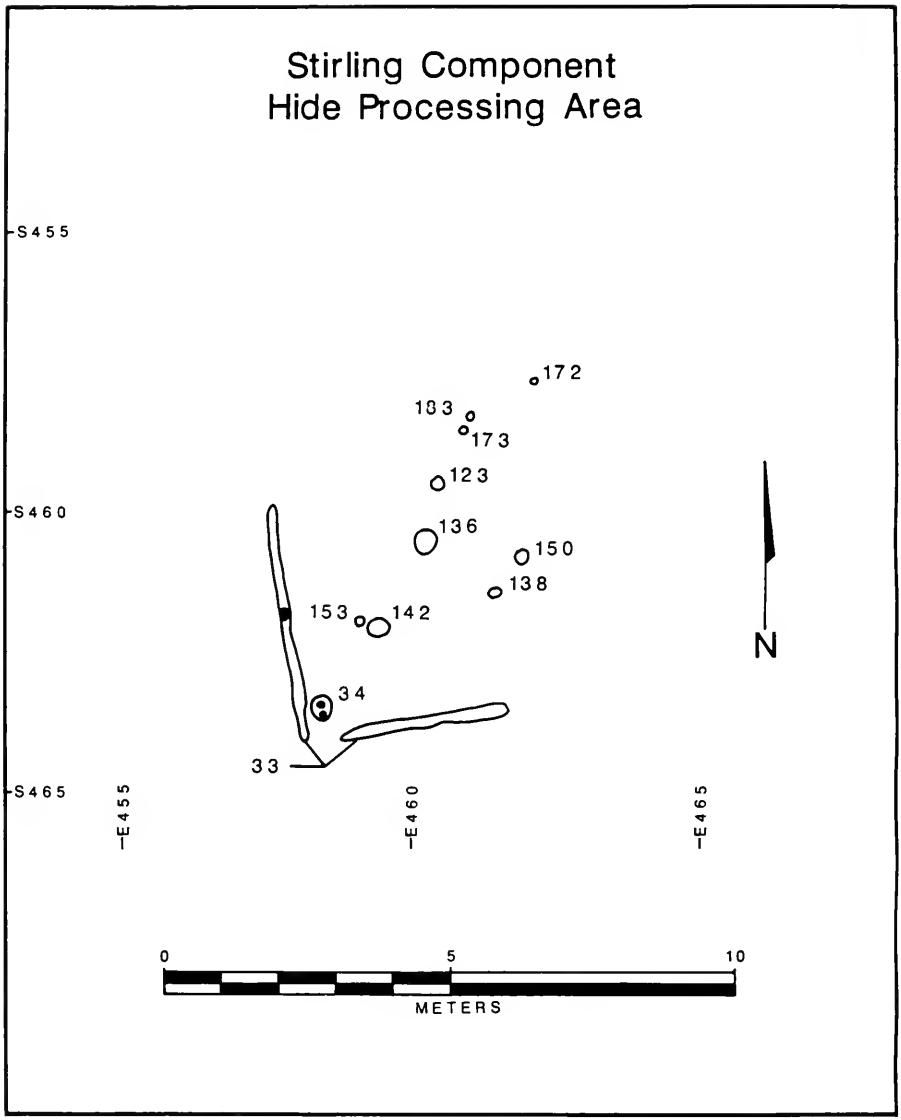


Figure 5.29. Detail of proposed hide processing activity area.

location in question. No south wall trenches were defined for Features 427, 428, or 429, sugesting they may have been three-sided, arbor-like buildings. The alternative is that the south walls were destroyed by later reconstructions.

Class 6 Features—Other Structures

Seven Class 6 features have been assigned to the General Stirling component. These include one Sub-class 6.1 arbor, one Sub-class 6.2 granary, one Sub-class 6.3 rack/screen, and four Sub-class 6.4 miscellaneous trenches (Tables 5.111, 5.112, 5.113, and 5.114).

Feature 365, the arbor, is a three-sided wall trench structure. It is located near Stirling Cluster 1, west of the Stirling plaza. Like all but one of the other arbors, Feature 365 was situated with its open side facing away from the plaza. The symmetry apparent in the positioning of Feature 365, the Stirling plaza post (Feature 191), and Feature 418, a Late Stirling arbor located east of the plaza in Cluster 5, suggests that they occupied prescribed locations within the community and that they had community-wide significance.

Feature 20 is interpreted as the foundation for a Sub-class 6.2 granary or barbacoa. The feature was located immediately east of Structure 97, near the southwest edge of Cluster 1. It consisted of five substantial postmolds arranged in a square/rectangular pattern. With the possible exception of Early Stirling Feature 453, a Sub-class 6.5 structure, Feature 20 is the only potential barbacoa-like, grain storage facility recognized for the Stirling component. This stands in contrast to the Lohmann component, where several probable above-ground granaries have been identified.

Feature 33, representing Sub-class 6.3, has been described previously as a drying rack and possible wind screen associated with the proposed hide processing area near the southeast edge of the plaza. For reasons presented in that discussion, Feature 33 and the other features in that area were probably utilized during the Early Stirling subphase.

The four Sub-class 6.4 miscellaneous trenches included in the General Stirling component include Features 431, 433, 449, and 450. The first two were associated with a confusing complex of superimposed structures in Cluster 1. These trenches may represent benches or walls related to several of the structures identified in the complex, or they may be remnants of buildings which were all but obliterated by later construction. Features 449 and 450 were located in Cluster 5. Feature 449, located inside Feature 418, the Sub-class 6.1 arbor, consisted of two trenches in the shape of a T. Feature 449 probably functioned as a bench, partition, or rack. Feature 450 was located between Features 418 and 320. Its function is unknown, but it probably served as a bench, screen, or rack.

Class 7 Features—Other Features

Five Class 7 features are represented in the General Stirling component. These consist of one Sub-class 7.2 fill feature, one Sub-class 7.3 "miscellaneous other" feature, and three Sub-class 7.4 amorphous midden-filled borrows (Tables 5.115, 5.116, and 5.117).

Feature 355, the fill feature, occupied a corner of either Early Stirling Structure 380 or Late Stirling Structure 381 in Cluster 5. As mentioned earlier, this feature consisted of a cache of large chert cores and may represent an instance of "provisional discard" (cf. Hayden and Cannon 1983). Having been cached, the cores were forgotten, and never recovered. A nearly identical feature was identified at the Robert Schneider site (Fortier 1985).

Feature 176, the "miscellaneous other" feature, was a trough-shaped entity located in Early Stirling Cluster 4 among Structures 154, 155, and 156. Although it occupied a central position within this group, its association with a specific structure was not evident. The entire complex was extensively disturbed by later prehistoric feature excavation. Consequently, there remains insufficient evidence to reconstruct the original shape and function of Feature 176.

Features 71, 89, and 452 are all large, amorphous, midden-filled borrows. The first of these was located in the Cluster 1 toft. Its inclusion in Sub-class 7.4 is based primarily on metric attributes. Feature 71 was a large, oval-shaped, shallow basin that could have been identified as a Sub-class 1.1 pit, except that its long axis dimension was greater than 2 m. Feature 71 may have been a clay borrow, though it also could have served some other function.

Feature 89 was located in the Cluster 2 toft immediately west of Late Stirling Structure 92 and south of Early Stirling Structure 99. This large, amorphously shaped, midden-filled depression was most likely a clay borrow. As suggested earlier, it may have been necessary to pack clay around the foundations of some structures, presumably those in Cluster 2, to keep occasional surface water out of the structure basin(s).

Feature 452 was a very large, amorphously shaped clay borrow situated at the northwest edge of the Stirling plaza. The feature was superimposed upon Feature 276, the massive Lohmann phase cache/storage pit. Two lines of evidence suggest that Feature 452 dates to Early Stirling times. First, only Early Stirling structures were found in the vicinity of Feature 452. Second, the Feature 452 depression may have been created when the fill of Lohmann Feature 276 settled. Presumably, the subsequent Early Stirling occupants of the tract found the depression a convenient place from which to borrow soil and into which to deposit refuse.

Moorehead Component Features (n=72)

Of the seven major feature categories, only Class 7 ("Other Features") is unrepresented in the remains of the ICT–II Moorehead phase occupation. In addition, the following feature sub-classes are absent:

1.3	Shallow basins with associated postmolds
2.4	Burial pits
3.3	Pits with evidence of in situ burning and associated postmolds
3.4	Smudge pits
3.5	Large cooking facilities
5.1	Large rectangular enclosed wall trench structures
5.2	Small rectangular enclosed wall trench structures
6.2	Above-ground storage facilities

The proposed Lohmann–Early Stirling–Late Stirling continuity in settlement patterning at the ICT–II breaks down during Moorehead times (Figure 5.30). The characteristic Stirling pattern of household clusters oriented around a plaza/mound complex was abandoned by the tract's Moorehead inhabitants, who restricted occupation to the highest elevations of the tract. Two Moorehead feature clusters, both lying along the east edge of the project area, have been defined (Figure 5.31). Of the 71 features identified as belonging to this phase, 68 are contained within one or the other of these these clusters, leaving only three unassociated with a household group.

Feature Cluster 1

Cluster 1, the more southerly of the two , is a complex of structures and other features bounded by CMG coordinates S420–S460 and E460–E480. Forty-six individual features are included in this cluster, over two times the number contained in Cluster 2 (Figure 5.32).

Feature Class 1—Pits of Indeterminate Function

Five examples of this feature class occur in Cluster 1. Three of the five, Features 130, 163, and 165, are Sub-class 1.1 pits with homogeneous single zone fill. All were part of a group of other pit and fire-related features, which appear to define a storage, processing, and cooking area. This activity area lies southwest of the four Cluster 1 structures.

Two Sub-class 1.2 pits with multiple zone fill (124, 270) are found in Cluster 1, and are the only examples of the type associated with the Moorehead component. Feature 129 was part of in the group of features believed to represent the activity area described above. Feature 270 was located east of that area, where it was superimposed on the southernmost structure in the complex, Structure 250.

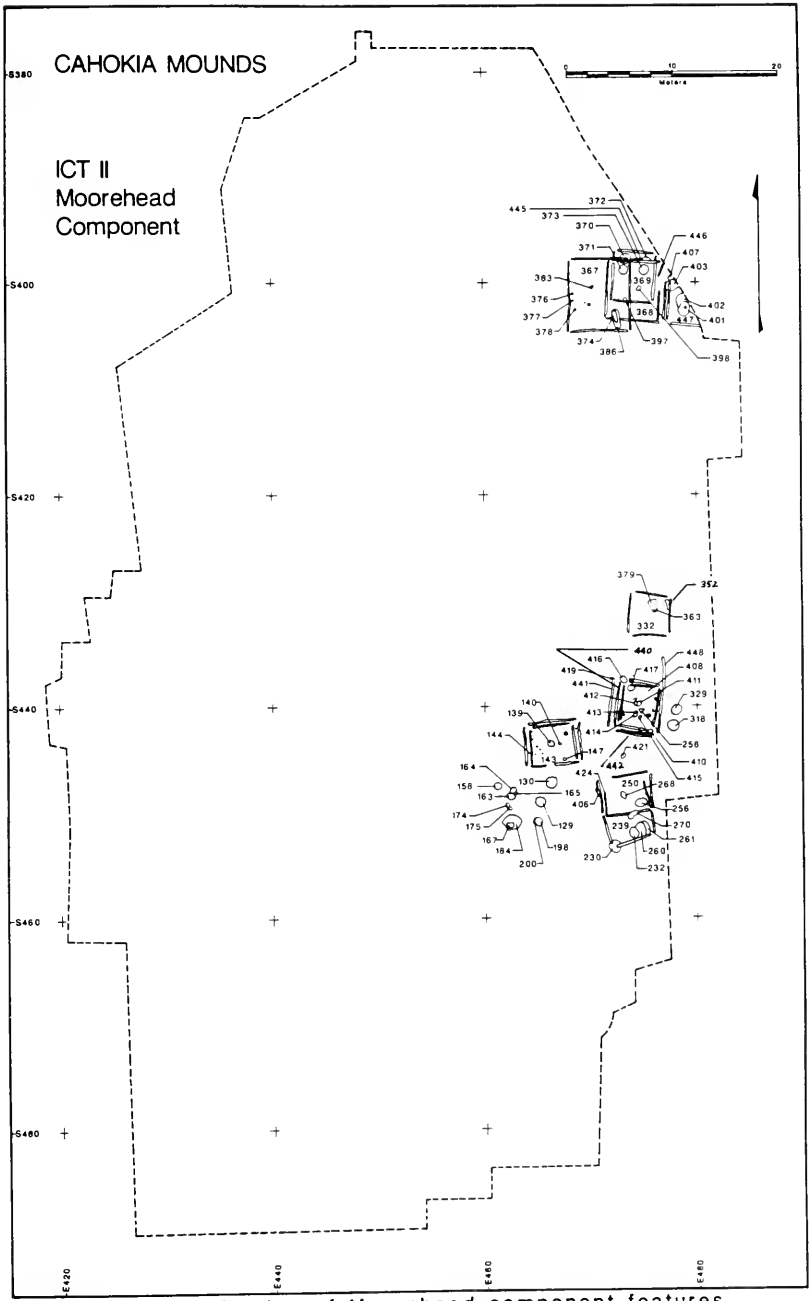


Figure 5.30. Distribution of Moorehead component features.

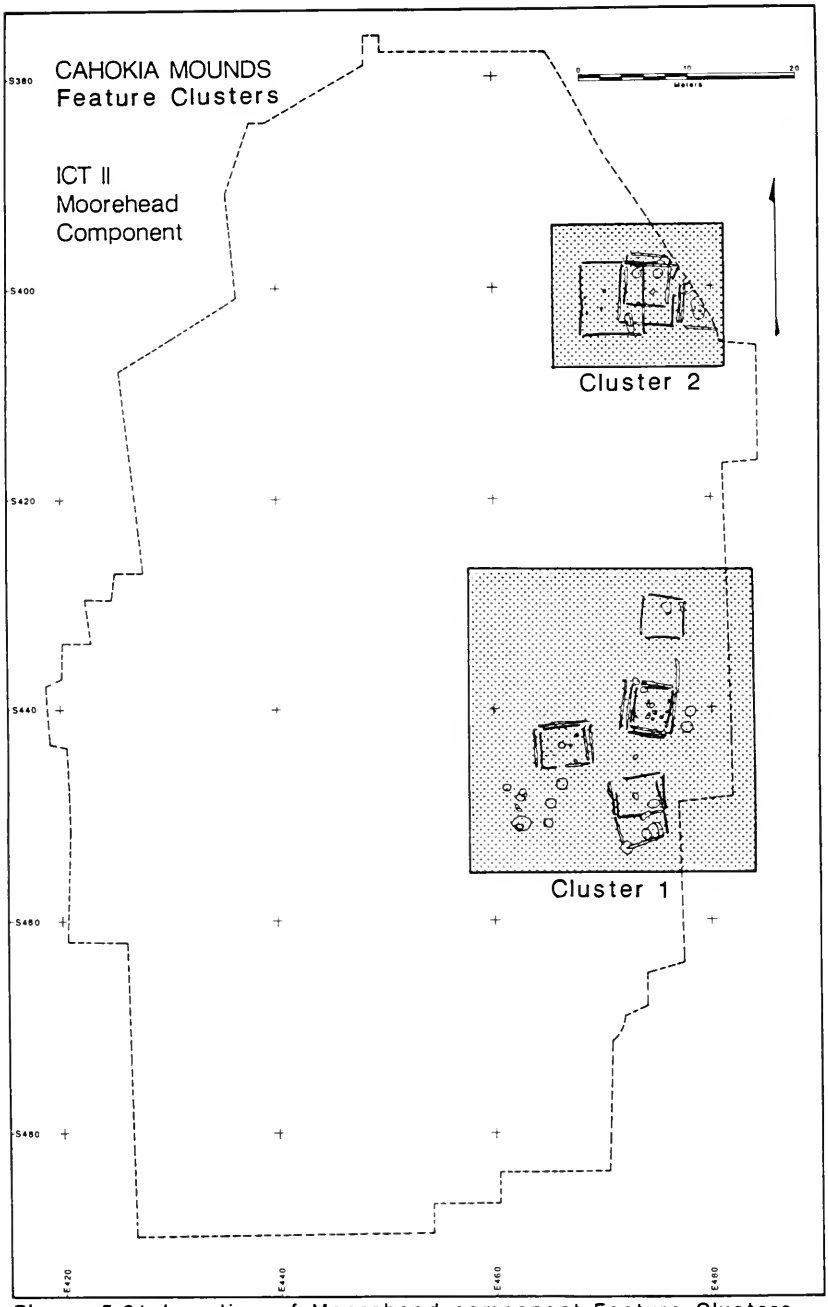


Figure 5.31. Location of Moorehead component Feature Clusters 1 and 2.

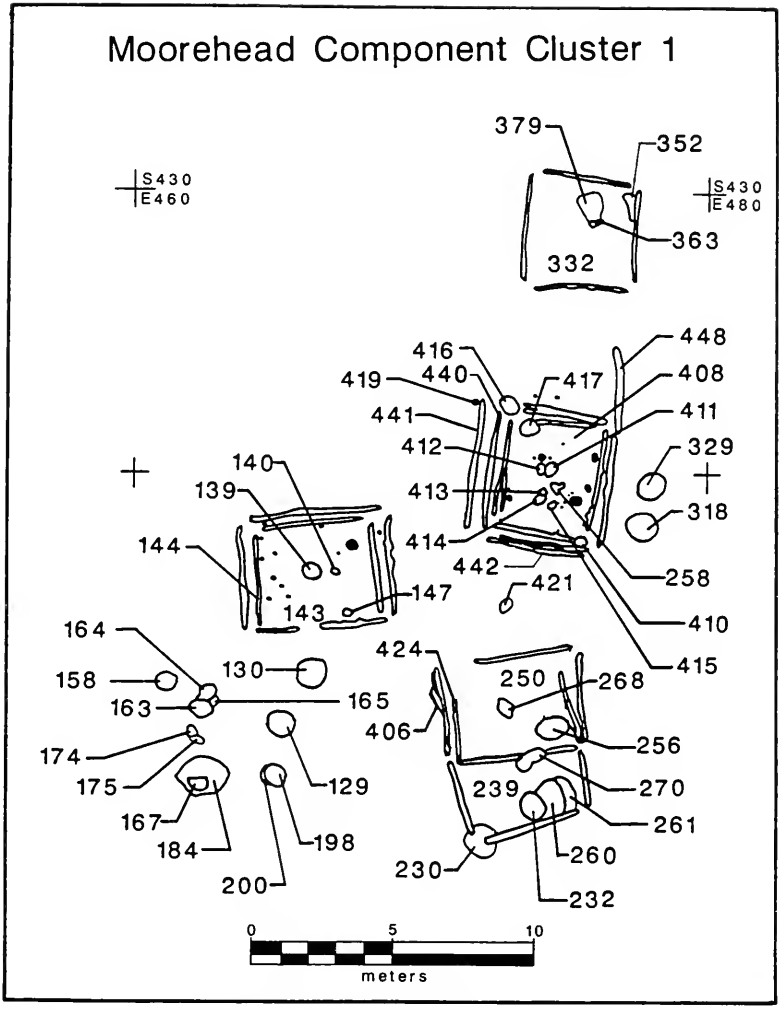


Figure 5.32. Moorehead Feature Cluster 1.

Feature Class 2—Cache/Storage Facilities

Twenty-three of the thirty Moorehead Class 2 features are contained in Cluster 1. Eleven features represent Sub-class 2.1, exterior storage pits. Within Cluster 1, these pits are situated in three discrete groups.

Features 158, 167, 184, 198, and 200 were concentrated in the vicinity of the proposed activity area south of Structure 143. Four of these pits provide interesting evidence of culture process: Features 167 and 200 are both cache/storage pits that were excavated, filled, and subsequently, partially re-excavated, presumably reused as storage facilities, and refilled. Features 184 and 198 represent the second use cycle of Features 167 and 200, respectively. This sequence may constitute evidence for seasonal or yearly reuse of cache/storage pits.

Features 230, 232, 260, and 261 form another discrete concentration of Sub-class 2.1 pits within the Cluster 1 toft. These features were located immediately south of Structure 250. It seems most likely that this group was associated with that structure, but the presence nearby of Feature 239, a Sub-class 6.1 ramada, complicates the picture. Structures 250 and 239 are believed to have been conjoined, contemporaneous structures. However, the ramada is superimposed on storage pit 230. Perhaps the ramada was a late addition to Structure 250, built after the abandonment of the pit. The ramada may have been constructed, in part, to provide a roof over storage pits 232, 260, and 261. However, observations during excavation indicate the ramada post-dated the pits. Pit 232 superimposed both pits 260 and 261. Feature 260 superimposed Feature 261. These three features, then, represent discrete use episodes of the same cache/storage facility.

Features 318 and 329 were located immediately east of Structure(s) 408/440/442, and were most likely associated with one or more of the building episodes of those structures.

A single example of what is probably a Sub-class 2.2 interior cache/storage pit, occurs in Cluster 1. This pit, Feature 256, is located inside the walls of Structure 250. However, its association with that structure could not be established, and the possibility remains that the pit either predated or post-dated the structure.

Of the twelve Sub-class 2.3 small cache pits dating to the Moorehead phase, all but one of were included in Cluster 1. These small features occupied various positions in and around the cluster's structures. Features 140 and 147 were located inside Structure 143, the former immediately east of a central hearth, the latter near the south wall. Cache pit 268 was situated in the approximate center of Structure 250.

The structure complex which included Features 408, 440, and 442 also contained several small interior cache pits. These included Features 411, 412, 414, and 415, each of which was closely associated with Feature 258, a hearth at the center of the complex. Features 411 and 414 were superimposed on Features 412 and 413, respectively, suggesting that they were associated with the original structure in the complex, while Features 411 and 414 were associated with a subsequent rebuilding episode.

Feature 410 occupied the southeast corner of the same structure complex. As it was superimposed on wall trenches belonging to both Structures 408 and 440, it was probably associated with Structure 442, the latest building in the sequence. Yet another small cache pit, Feature 417, was located in the northwest corner of the complex, superimposed on a wall trench belonging to Structure 408. This pit could have been associated with either Structure 440 or 442.

A final cache pit spatially associated with the Structure 408/440/442 complex probably post-dates it. Feature 416, superimposed on the northwest corner wall trenches of Structures 440/442, contained three Mill Creek chert hoes. One could conjecture that the pit was excavated into the ruins of the structure complex in an attempt to camouflage the cache.

The final small cache pit located in Cluster 1 was Feature 352. A narrow, trough-shaped pit, this feature was excavated along the east wall trench of Structure 332.

Feature Class 3—Fire-Related Features

Seven out of nine Moorehead Class 3 features are contained within the boundaries of Cluster 1. Five of these features are Sub-class 3.1 hearths, the entire Moorehead sample for this type. Three of the hearths were located outside structures. Features 174 and 175 were members of a group of features located at the southwest edge of the cluster. As discussed above, this group probably represents a storage, processing,

and cooking area. Feature 174 was superimposed on Feature 175, and probably represents reuse of what is essentially a single hearth facility. This situation parallels the sequential history of use of nearby storage pits 167/184 and 198/200. The obvious implication is that the area was periodically used, then abandoned. Perhaps the Cluster 1 area as a whole was periodically vacant. Alternatively, the data could merely reflect a discontinuity of specific household activities conducted in certain areas of the Cluster 1 toft.

The third exterior hearth, Feature 421, occupied an open area between several structure complexes in Cluster 1. This open area may have been a household patio, with the hearth the focal point of the activities conducted thereon. Feature 421 exhibited very heavily oxidized soil in a symmetrical depression.

Two of the Cluster 1 hearths, Features 139 and 258, were located inside structures. Feature 139 occupied the center of Structure 143, while Feature 258 was situated near the center of the feature complex composed of Structures 408, 440, and 442. Feature 258 was amorphous in appearance and may have been associated with any or all of the three structures in the complex.

Two Sub-class 3.2 firepits were located in Moorehead Cluster 1. One, Feature 164, was part of the storage, processing, and cooking feature group located at the southwest cluster edge. The second, Feature 379, was a massive firepit inside Structure 332. Feature 379 was literally crammed full of carbonized logs. The logs, burned in situ and in a reducing atmosphere, were obviously meant to produce vast quantities of smoke. The location of the firepit inside Structure 332 suggests that the building served a special function unrelated to habitation.

Feature Class 4—Postmolds and Post Pits

Three examples of Class 4 posts were found within Cluster 1. One of these, Feature 419, was the only Sub-class 4.1 free-standing post related to the Moorehead occupation. Located just outside the northwest corner of the Structure 408/440/442 complex, this feature may represent a door or patio post.

Feature 413, one of the two representatives of Sub-class 4.2, marks the position of a central support post for Structure(s) 408/440/442. The other example of this sub-class, Feature 363, was situated slightly east of center within Structure 332. This post may have provided structural support or may have been used to suspend commodities for smoking.

Feature Class 5—Enclosed Wall-Trench Structures

Five Sub-class 5.3 square/nearly square structures are included in Moorehead Cluster 1. These are Features 143, 250, 408, 440, and 442. Feature 143, the westernmost structure, is a relatively large building with a central hearth, two small interior cache pits, and interior trenches parallel to the west, north, and east walls (see Figure 5.16). The trenches probably served as bench foundations. A break near the center of the south wall trench represents the entryway to the building. This southern doorway faces the proposed storage, processing, and cooking area described earlier. That Feature 143 and this activity area (Figure 5.32) were systemically linked seems reasonable.

Structure 250 was somewhat smaller than 143. With a length/width ratio of 1.30:1, it was the most acutely rectangular of all the Moorehead Sub-class 5.3 structures. Structure 250 contained a cache/storage pit in the southeast corner, a centrally located small cache pit, and interior trenches parallel to the west and east walls. As was the case with Structure 143, the trenches probably represent the locations of benches. A gap in the walls at the northwest corner of the building may represent the entryway (Figure 5.32). An irregularly shaped, three-sided wall trench feature appears to have been attached to the structure's south side. This feature, 239, is identified as a ramada. The ramada was superimposed on at least one of the cache/storage facilities situated to the south of Structure 250, suggesting that it was added to the pre-existing Structure 250. The south wall trench of Structure 250 was superimposed by pit Feature 270, which suggests that 250 was an early structure in the Cluster 1 building sequence, and that it was razed prior to the abandonment of at least one of the other cluster structures.

Features 408, 440, and 442 represent separate building episodes at the same location. Feature 408 was the earliest and smallest of the three structures in the sequence, with Features 440 and 442 following in respective order of construction. Feature 442 was the largest of the three structures. Structure 408 was represented by four discrete wall trenches, as was Structure 440. The final structure, 442, exhibited distinct wall trench rebuilding on the north and south sides, but on the east and west sides it shared common wall

foundations with Structure 440. Rather than representing a separate building episode, Feature 442 might be better viewed as representing maintenance construction related to the existing Structure 440. Several small cache pits were located within the common interior floor space of the three structures, as was a dispersed, amorphous hearth.

An interesting feature associated with the Structure 408/440/442 complex is Sub-class 6.3 trench Feature 441. This single exterior trench runs parallel to and spans the length of the west walls of the three structures (Figure 5.32). Feature 441 may represent a wind screen. Such an inference suggests that the structural complex included winter dwellings. Such a proposition is reinforced by ethnographic accounts indicating that winter houses are more likely to require rebuilding than summer dwellings (Latorre and Latorre 1976; Reed 1987).

The composition of the Moorehead Cluster 1 structure complex is reminiscent of Bartram's (1909:55) description of Creek household organization:

> The dwellings of the Upper Creek consist of little squares, or rather of four dwelling-houses enclosing a square area, exactly on the plan of the Public Square. Every family, however, has not four of these houses; some have but three, others not more than two, and some but one, according to the circumstances of the individual, or the number of his family. Those who have four buildings have a particular use for each building. One serves as a cookroom and winter lodging house, another as a summer lodging house and hall for receiving visitors, and third for a granary or provision house, etc.

Comparison of the Moorehead Cluster 1 complex to Bartram's model of Creek households permits inferences concerning possible functions of the three Cluster 1 structures. Structure(s) 408/440/442 could be seen as the "cookroom and winter lodging house"; Structure 413, with its interior benches, could be viewed as the "summer lodging house and hall for receiving visitors"; and Structure 250, with its ramada and associated storage pit(s), could be seen as a "provision house." As in the Creek household, these structures appear to have been arranged around a patio area which contained a central hearth.

In addition to the Sub-class 5.3 structures just discussed, Moorehead Cluster 1 includes one Sub-class 5.4 unusually-shaped structure, Feature 332. Feature 332 exhibited a trapezoidal shape and had extremely narrow wall trenches. From the base to the top, these wall trenches slanted radically toward the center of the structure. The very narrow trenches probably accommodated thin, flexible posts. This evidence suggests that the building was of light arbor-roof construction. Structure 332 contained Feature 379, a firepit that existed in a reducing atmosphere, and which would have produced vast quantities of smoke. This suggests that Feature 332 was a small pole frame that may have been covered with hides to be smoked. Additionally or alternatively, commodities such as hides or meat could have been placed inside the structure for curing. Following this interpretation, post Feature 363, located in the structure next to the firepit may represent a pole from which were suspended commodities to be smoked.

Class 6 Features—Other Structures

Six of the nine Moorehead Class 6 features are contained in Cluster 1. Of these, Feature 239 has been described as the Sub-class 6.1 ramada attached to the south side of Structure 250. As mentioned, this irregularly shaped addition to Feature 250 is believed to have been constructed after that building had been in use for some time. As has been suggested, the ramada may have been constructed to provide a roof over cache/storage facilities south of Structure 250.

Three Sub-class 6.3 features occur in Cluster 1. Feature 441 is an exterior trench. Situated parallel to and immediately west of Structure(s) 408/440/442, this trench may have supported a screen constructed to protect one or more of the buildings in the complex from prevailing winter westerlies.

The remaining examples of Sub-class 6.3 are trenches located inside structures. Feature 144 consisted of interior trenches paralleling the west, north, and east walls of Structure 143. They are thought to mark the locations of benches or beds. The same function is inferred for Feature 424, which consisted of two trenches paralleling the west and east walls of Structure 250.

Two Sub-class 6.4 miscellaneous trenches were located in the Cluster 1 toft. Feature 406 lay just east of Structure 250. Feature 448 lay next to the northeast corner of Structure(s) 408/440/442 and extended

to the north from the structure corner. The functions of these trenches are unknown but they are presumed to represent foundations of racks, benches, or screens.

Feature Cluster 2

Moorehead Cluster 2, located at the northeast corner of the excavation block, includes a series of superimposed structures that may represent considerable time depth. Cluster 2 is bounded by CMG coordinates S390–S410 and E460–E480 (Figure 5.33).

Holley (1989) has suggested that some of the features associated with Cluster 2 represent late Moorehead phase occupations. This notion is based on the presence of Sand Prairie stylistic attributes in the ceramic assemblage, and may be supported somewhat by the increasing size of successive Cluster 2 structures. Only the western portions of Cluster 2 were contained within the excavation block.

Feature Class 1—Pits of Indeterminate Function

That portion of Moorehead Cluster 2 contained within the ICT–II includes three Class 1 features (372, 386, 402). All are Sub-class 1.1 pits with homogeneous single-zone fill, and all are found in close vertical and horizontal association with other cluster features.

Feature Class 2—Cache/Storage Facilities

The jumble of superimposed, juxtaposed, and horizontally truncated structures in Cluster 2 made it difficult to determine whether Class 2 pits in that area occurred inside or outside structures, and whether specific pits were associated with specific structures. For this reason, assignment of features in this area to Sub-class 2.1 (exterior storage pits) and Sub-class 2.2 (interior storage pits) is tentative. The problem of association was compounded by extremely shallow or, in some cases, nonexistent structure basins, a situation which made it virtually impossible to determine relative superpositioning of many pits and structures. Only where pits were superimposed on or were superimposed by wall trenches were feature relationships traceable.

Three Cluster 2 pits, Features 401, 403, and 407, are classified as exterior storage facilities. Each of these pits was situated east of Structures 367, 368, and 369, and each was only partially contained within the excavation block. It is possible that pit Feature 401 was located inside a structure represented by a set of trenches, designated Feature 447. Neither pit 403 nor 407 would have been contained by this structure as both underlie one of its trenches. Pit 403 was superimposed on pit 407, providing yet another example of storage pit reuse during Moorehead times.

Three interior storage pits, Features 370, 371, and 373, were situated within the Cluster 2 complex. Feature 370 was located in the northwest corner of Structure 369. As it was superimposed by both Structures 367 and 368, its association with Structure 369 seems clear. Feature 371 was located inside the walls of all three Cluster 2 structures, occupying the northwest quarter of Structure 369, the northwest corner of Structure 368, and the northeast corner of Structure 367. It could have been associated with any of those buildings.

Pit Feature 373, situated in the same general vicinity as pits 370 and 371, was equally difficult to associate with a specific Cluster 2 structure. The storage pit would have occupied the northeast quarter of either Structure 369 or 368. If associated with Structure 367, it would have been located immediately outside the northeast corner of that building. Structure 367 is considered, on the basis of its stratigraphic position and relative size, the latest structure in Cluster 2, and the latest within the ICT–II. Ceramic data indicate that pit Feature 373 is the latest nonstructural feature within the tract. If these two features were contemporaneous, Feature 373 would be more properly classified an exterior cache/storage pit.

Feature 397 was the only Sub-class 2.3 small cache pit located in Moorehead Cluster 2. The pit lay inside the south wall trench of Structure 369, in the southwest quadrant of Structure 368, and just inside the east wall of Structure 367. Its association with any one of these structures could not be resolved.

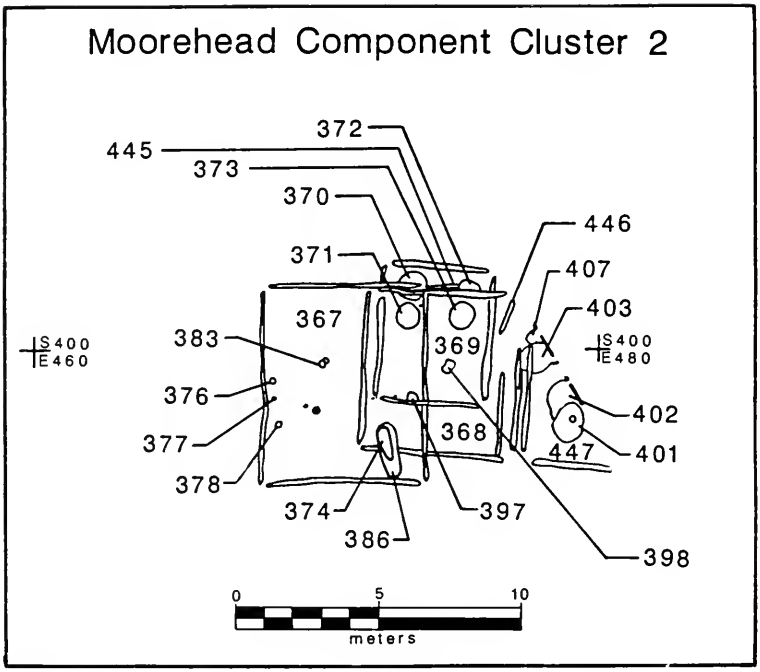


Figure 5.33. Moorehead Feature Cluster 2.

Class 3 Features—Fire-Related Features

Two fire-related features were identified in Moorehead Cluster 2. Features 374 and 398, both Sub-class 3.2 firepits, were situated among the cluster's structural remains. Firepit 374 was superimposed upon pit Feature 386 and Structure 368. While situated within the confines of Structure 367, it could not be positively associated with that structure or any other feature in Cluster 2.

Feature 398 was located inside Structures 368 and 369, occupying the southeast quadrant of the latter, and the center of the former. It was located immediately outside the east wall of Structure 367. As was the case for Feature 374, an association between this firepit and any one of the Cluster 2 structures could not be determined.

Class 4 Features—Postmolds and Post Pits

Four Class 4 features, all probable remains of structural posts occur in Cluster 2. Three of these, Features 376, 377, and 378, form a line along the east wall of Structure 367. While they may represent structural support elements associated with that building, they may also be unrelated to the structure. The fourth post feature, 383, was located inside Structure 367, northeast of center. The relationship of the post with the surrounding structure is ambiguous.

Class 5 Features—Enclosed Wall-Trench Structures

Moorehead Cluster 2 (Figure 5.33) includes three Sub-class 5.3 square/nearly square structures. From earliest to latest and from smallest to largest they are Features 369, 368, and 367. Increasing structure size during the Moorehead phase at Cahokia is a trend noted by a number of investigators. For instance, in their description of the Moorehead phase, Fowler and Hall (1975:6) note that "A secular trend toward larger wall-trench houses continues from preceding phases and will continue into the following phase with implications for changing household size and social organization over this period."

Evidence from Cluster 2 suggests that a shift away from household occupation of multiple dwellings, and toward household occupation of single, large dwellings had occurred by the end of the Moorehead phase. This need not imply that the household unit itself grew larger—only that the buildings were larger.

The apparent household reorganization can be viewed as a reflection of Oneota influence on late Moorehead and Sand Prairie occupants of the American Bottom. However, if such influence was felt, one wonders why it would have been manifested in household re-organization, but not in other, more tangible, aspects of culture (i.e., ceramics). Nevertheless, the increase in Oneota–Mississippian interaction during Moorehead and Sand Prairie times in the American Bottom (Fowler and Hall 1975; Milner et al. 1984; Fortier and McElrath 1986) and the adoption by Mississippian households of large, single structure dwellings reminiscent of the Oneota pattern, may be more than coincidental (cf. Collins 1989).

Structure 369, the earliest of the Cluster 2 buildings, may have been associated (paired?) with another structure only partially visible within the project area. Feature 447, east of Structure 369, consisted of two wall trenches at right angles to one another. They may well represent another square structure in the cluster.

Class 6 Features—Other Structures

Two miscellaneous trenches were excavated in the area of Moorehead Cluster 2. Features 445, and 446 are both miscellaneous trenches of unknown function in the vicinity of the Structure 367/368/369 complex. Feature 447 includes two perpendicular trenches, which may represent portions of the west and south walls of a substantial structure. The greater portion of such a structure would have been located outside the ICT–II excavation block. The relationship of this possible structure to pits in the vicinity is not clear.

Table 5.1. Late Archaic Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
*2001	.61	—	.23	—	1
2002	1.02	.77	.16	.05	1
n=2	x=.81 s=.29	x=.77 s=0.0	x=.19 s=.05	x=.05 s=0.0	

*Length and depth taken from profile of deep test trench; no width possible.

Table 5.2. Inventory of Indeterminate Mississippian Features*

Sub-class													
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2
50								317				21	
69												204	
126													
201													
243													
257													

* No examples of Feature Classes 5–7.

Table 5.3. Indeterminate Mississippian Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
50	.42	.40	.10	.01	1
69	.86	.80	.05	.01	1
126	.33	.28	.15	.01	1
201	1.20	.87	.03	.01	1
243	.83	.69	.10	.02	1
257	.45	.32	.11	.01	1
n=6	x=.68 s=.33	x=.56 s=.26	x=.09 s=.04	x=.01 s=.004	

Table 5.4. Indeterminate Mississippian Sub-class 3.2 Firepits

Feature	Length	Width	Depth	Volume	Zones
317	.96	.65	.18	.05	3

Table 5.5. Indeterminate Mississippian Sub-class 4.1 Plaza, Patio, or Door Posts

Feature	Length	Width	Depth	Volume	Zones
21	.14	.14	.09	.001	1
204	.24	.24	.08	.002	1
n=2	x=.19 s=.07	x=.19 s=.07	x=.08 s=.01	x=.001 s=.001	

Table 5.6. Inventory of Lohmann Features

Sub-class

1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
1	44	4	262	298	79		109	2	3	82	17	145	205	128	305		8	103	11	295	197		159	161	301	56
7	237	26	276		80			5	81		209	289	333	133	344		287	190	297	307	358			444	322	59
25		206	279		300			6			274	290		189				275	337		389				405	70
28			345		325			9			346	303		192				310	341						465	74
40			359		350			15				400		265												83
57								24				404		282												185
58								253						283												187
61														321												225
62														338												278
63														342												296
64																										460
65																										
73																										
91																										
121																										
216																										
222																										
229																										
248																										
266																										
456																										
457																										

Table 5.7. Lohmann Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
1	1.86	1.10	.10	.08	1
7	.86	.54	.19	.03	1
25	1.10	.98	.05	.02	1
28	.58	.58	.04	.005	1
40	1.95	1.42	.18	.19	1
57	.90	.71	.23	.02	1
58	1.02	.89	.08	.03	1
61	1.10	.42	.08	.01	1
62	1.28	1.21	.14	.05	1
63	1.15	1.03	.12	.05	1
64	1.35	1.00	.18	.09	1
65	1.50	1.05	.10	.04	1
73	.36	.34	.04	.002	1
91	1.25	.80	.17	.07	1
121	1.92	1.14	.08	.07	1
216	.97	.85	.06	.02	1
222	1.08	.98	.08	.03	1
229	1.06	1.00	.14	.06	1
248	1.80	1.56	.13	.14	1
266	1.54	1.52	.14	.09	1
456	1.04	.77	.02	.01	1
457	1.42	1.36	.17	.12	1
n=22	x=1.23	x=.97	x=.11	x=.06	
	s= .41	s= .33	s=.06	s=.05	

Table 5.8. Lohmann Sub-class 1.2 Pit Features

Feature	Length	Width	Depth	Volume	Zones
44	1.30	1.18	.17	.10	2
237	1.67	.90	.14	.08	2
n=2	x=1.47	x=1.04	x=.15	x=.09	
	s= .24	s= .20	s=.02	s=.01	

Table 5.9. Lohmann Sub-class 1.3 Pit Features with Posts

Feature	Length	Width	Depth	Volume	Zones
4	1.16	.75	.29	.07	1
26	1.55	1.30	.05	.04	1
206	.68	.66	.20	.02	1
n=3	x=1.13	x=.90	x=.18	x=.04	
	s= .43	s=.35	s=.12	s=.02	

Table 5.10. Lohmann Sub-class 2.1 Exterior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
262	1.70	1.60	.88	1.06	3
276	4.70	3.20	.56	5.60	1
279	1.38	.70	.18	.17	1
345	1.18	.83	.45	.44	3
359	1.15	.84	.51	.39	3
n=5	x=2.02	x=1.43	x=.52	x=1.53	
	s=1.51	s=1.05	s=.25	s=2.30	

Table 5.11. Lohmann Sub-class 2.2 Interior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
298	1.00	.95	.77	.60	2

Table 5.12. Lohmann Sub-class 2.3 Small Cache Pits

Feature	Length	Width	Depth	Volume	Zones
79	.35	.30	.24	.05	1
80	.46	.42	.25	.04	1
300	.30	.27	.20	.01	1
325	.66	.58	.14	.02	1
350	.36	.31	.36	—	1
351	.36	.12	.29	.01	1
n=6	x=.41	x=.33	x=.25	x=.03	
	s=.13	s=.15	s=.07	s=.02	

Table 5.13. Lohmann Sub-class 3.1 Hearths

Feature	Length	Width	Depth	Volume	Zones
109	1.10	.38	.25	.07	2

Table 5.14. Lohmann Sub-class 3.2 Firepits

Feature	Length	Width	Depth	Volume	Zones
2	.98	.84	.12	.04	1
5	.74	.54	.12	.02	1
6	.92	.64	.10	.02	1
9	.42	.24	.05	.002	2
15	1.20	.68	.12	.04	1
24	2.00	1.48	.21	.24	1
253	3.02	2.76	.37	1.18	5
n=7	x=1.32	x=1.02	x=.16	x=.22	
	s= .89	s= .85	s=.10	s=.43	

Table 5.15. Lohmann Sub-class 3.3 Firepits with Posts

Feature	Length	Width	Depth	Volume	Zones
3	1.40	1.10	.30	.06	3
81	1.98	1.47	.10	.11	1
n=2	x=1.69	x=1.28	x=.20	x=.08	
	s= .41	s= .26	s=.14	s=.03	

Table 5.16. Lohmann Sub-class 3.4 Smudge Pits

Feature	Length	Width	Depth	Volume	Zones
82	.26	.26	.19	.01	1

Table 5.17. Lohmann Sub-class 3.5 Pit Ovens and Roasting/Steaming Facilities

Feature	Length	Width	Depth	Volume	Zones
17	2.97	1.72	.24	1.22	1
209	3.00	1.40	.80	3.36	5
274	3.96	2.70	.26	2.27	3
346	4.40	2.20	.22	1.93	2
n=4	x=3.58	x=2.00	x=.38	x=2.19	
	s= .71	s= .57	s=.28	s= .89	

Table 5.18. Lohmann Sub-class 4.1 Free Standing Post Features

Feature	Length	Width	Depth	Volume	Zones
145	.38	.26	.35	.03	1
289	.39	.35	.16	.01	1
290	.30	.29	.18	.01	1
303	.32	.24	.50	.03	1
400	1.22	1.10	2.65	2.80	4
404	3.93	.90	2.03	3.59	1
n=6	x=1.09	x=.52	x=.98	x=1.08	
	s=1.43	s=.38	s=1.08	s=1.66	

Table 5.19. Lohmann Sub-class 4.2 Structural Post Features

Feature	Length	Width	Depth	Volume	
Zones					
205	.34	.20	.30	.01	1
333	.54	.54	.52	.13	4
n=2	x=.44	x=.37	x=.41	x=.07	
	s=.14	s=.24	s=.15	s=.08	

Table 5.20. Lohmann Sub-class 5.1 Rectangular Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
128	4.85	2.50	.64	1.94	12.12	7.76	.15	.10
133	4.40	2.80	.62	1.57	12.32	7.64	.17	—
189	5.30	2.70	.28	1.96	14.31	4.01	.16	.11
192	4.80	2.70	.44	1.77	12.96	5.70	.13	—
265	4.40	2.60	.33	1.69	11.44	3.76	.15	—
282	5.40	2.60	.29	2.07	14.04	4.07	.10	.08
283	4.80	2.90	.45	1.65	13.92	6.26	.15	.09
321	5.40	3.00	.36	1.80	16.20	5.83	.14	—
338	4.60	2.60	.27	1.76	11.96	3.23	.14	.08
342	5.00	2.90	.27	1.72	14.50	3.91	.17	—
n=10	x=4.90	x=2.73	x=.40	x=1.79	x=13.37	x=5.22	x=.15	x=.09
	s= .38	s= .16	s= .14	s= .15	s= 1.47	s=1.65	s=.02	s=.01

Table 5.21. Lohmann Phase Sub-class 5.1 Structures--Long Axis Orientation

Feature	CMG North	True North
128	91° 00'	89° 30'
133	356° 00'	355° 00'
189	350° 30'	349° 00'
192	89° 30'	88° 00'
265	88° 00'	86° 30'
282	354° 30'	353° 00'
283	89° 00'	87° 30'
321	82° 30'	81° 00'
338	354° 00'	352° 30'
342	352° 00'	350° 30'

Table 5.22. Lohmann Phase Sub-class 5.2 Structures--Long Axis Orientation

Feature	CMG North	True North
305	357° 30'	356° 00'
344	352° 30'	351° 00'

Table 5.23. Lohmann Phase Sub-class 5.4 Structures--Long Axis Orientation

Feature	CMG North	True North
8	90° 00'	88° 30'
287	359° 30'	358° 00'

Table 5.24. Inventory of Lohmann Phase Cluster 1 Features

Sub-class

1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
1		4		298	79		109	2	3	82	209		205	128			8	103	11		197		159	161		56
7		206			80			5	81					133				190						444		59
28								6						192												70
40								9						282												74
58								15																		83
63																										185
64																										187
65																										278
73																										
91																										
216																										

Table 5.25. Inventory of Lohmann Phase Cluster 2 Features

Sub-class

1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
456	237		276		325						274	289		321	305			275	297	295						296
457			297		350						346			338	344			337	307							
			345		351									342												
			359																							

Table 5.26. Inventory of Lohmann Phase Cluster 3 Features

Sub-class

1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
25	44	26						24			17			189				310								
57																										
121																										

Table 5.27. Lohmann Phase Sub-class 5.2 Small Rectangular Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
305	4.50	2.40	.36	1.87	10.80	3.89	.10	—
344	3.60	2.25	.13	1.60	8.10	1.05	.13	.10
n=2	x=4.05	x=2.32	x=.24	x=1.73	x=9.45	x=2.47	x=.11	x=.10
	s= .63	s= .10	s=.16	s= .19	s=1.90	s=2.00	s=.02	s=0.0

Table 5.28. Lohmann Phase Sub-class 5.4 Unusual-shaped Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
8	4.65	2.70	.32	1.70	12.50	4.02	.12	.08
287	6.25	3.25	.42	1.92	23.69	9.95	.14	.10
n=2	x=4.45	x=2.97	x=.37	x=1.81	x=18.09	x=6.98	x=.113	x=.09
	s=1.13	s= .39	s=.07	s=.15	s= 7.9	s=4.19	s=.01	s=.01

Table 5.29. Lohmann Phase Sub-class 6.1 Arbors (A), Kitchens(K), Ramadas (R), and Sweatlodges (S)

Feature	Length	Width	Depth	Area	Volume
103S	4.00	2.00	.16	6.28	—
190K	5.20	3.20	.22	16.60	3.66
275K	4.29	3.98	.43	17.07	7.34
310R	1.87	.73	—	1.36	—
n=4	x=3.84	x=2.48	x=.27	x=10.33	x=5.5
	s=1.41	s=1.42	s=.14	s= 7.78	s=2.6

Table 5.30. Lohmann Phase Sub-class 6.2 Granaries

Feature	Length	Width	Depth	Area	Volume
11	2.00	2.00	—	4.00	—
297	3.54	2.00	.18	7.08	—
337	2.00	1.50	.22	3.00	.66
341	2.36	2.25	.59	5.31	3.31
n=4	x=2.47	x=1.94	x=.33	x=4.84	x=1.89
	s= .73	s= .31	s=.23	s=1.76	s=1.75

Table 5.31. Lohmann Phase Sub-class 6.3 Screens, Fences, Racks, and Benches

Feature	Length	Width	Depth	Area	Volume
295	3.76	3.34	.25	—	1.13
307	2.84	.10	.21	—	.11
n=2	x=3.30	x=1.72	x=.23	x=.62	
	s= .65	s=2.29	s=.03	s=.72	

Table 5.32. Lohmann Phase Sub-class 6.4 Miscellaneous Wall Trenches

Feature	Length	Width	Depth	Area	Volume
197	5.50	3.78	.21	20.79	—
358	3.10	2.25	.18	6.97	1.26
389	3.40	2.20	—	7.48	—
n=3	x=4.00	x=2.74	x=.19	x=11.75	x=1.26
	s=1.31	s= .90	s=.02	s= 7.83	s= 0.0

Table 5.33. Lohmann Phase Sub-class 7.4 Large, Amorphous, Midden-filled Borrows

Feature	Length	Width	Depth	Volume	Zones
56	5.60	5.00	.16	1.44	1
59	3.60	2.15	.19	1.14	1
70	4.49	2.74	.34	1.60	1
74	2.58	1.68	.11	.18	1
83	7.45	3.80	.20	4.90	1
185	3.06+	2.64	<.10	.72	1
187	3.40	2.70	.12	.91	1
225	3.00	2.20	.05	.33	1
278	5.80	2.84	.45	5.60	1
296	2.86	2.18	.24	.96	1
460	3.88	3.59	.33	1.74	1
n=11	x=4.16	x=2.86	x=.21	x=1.77	
	s=1.53	s= .94	s=.12	s=1.79	

Table 5.34. Inventory of Lohmann/Stirling Features

	Sub-class																								
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
10		27					194	211				45	273		156							347		384		68
29												132			436											
46												326														
49																										
66																										
67																										
146																										
148																										
149																										
151																										
193																										
195																										
196																										
210																										
217																										
220																										
223																										
235																										
240																										
246																										
247																										
249																										
299																										
312																										
328																										
335																										

Table 5.35. Lohmann–Stirling Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
10	1.81	1.28	.12	.10	1
29	1.25	1.09	.16	.08	1
46	.93	.90	.09	.03	1
49	.38	.36	.07	.004	1
66	1.10	1.06	.13	.06	1
67	1.60	1.19	.11	.08	1
146	.45	.36	.20	.02	1
148	.34	.26	.12	.005	1
149	.30	.28	.14	.01	1
151	.30	.22	.24	.01	1
193	.28	.26	.16	.01	1
195	.53	.31	.09	.01	1
196	1.35	1.10	.12	.07	1
210	.67	.55	.02	.003	1
217	.37	.32	.15	.01	1
220	.92	.60	.02	.004	1
223	.97	.52	.19	.04	1
235	1.73	.80	.11	.06	1
240	.59	.43	.12	.01	1
246	.96	.42	.06	.01	1
247	.54	.40	.19	.02	1
249	1.30	1.00	.14	.07	1
299	1.80	1.32	.16	.07	1
312	1.19	1.09	.08	.04	1
328	.98	.92	.14	.02	1
335	1.08	.82	.09	.03	1
n=26	x=.91 s=.49	x=.69 s=.37	x=.12 s=.05	x=.03 s=.03	

Table 5.36. Lohmann–Stirling Sub-class 1.3 Pit Features

Feature	Length	Width	Depth	Volume	Zones
27	1.05	.95	.08	.03	1

Table 5.37. Lohmann–Stirling Sub-class 3.1 Hearths

Feature	Length	Width	Depth	Volume	Zone
194	.39	.34	.13	.01	1

Table 5.38. Lohmann–Stirling Sub-class 3.2 Firepits

Feature	Length	Width	Depth	Volume	Zones
211	.44	.35	.36	.04	3

Table 5.39. Lohmann–Stirling Sub-class 4.1 Free Standing Post Features

Feature	Length	Width	Depth	Volume	Zones
45	.16	.16	.08	.001	1
132	.60	.53	.12	.03	1
326	.17	.17	.02	.0002	1
n=3	x=.31	x=.29	x=.07	x=.01	
	s=.25	s=.21	s=.05	s=.02	

Table 5.40. Lohmann–Stirling Sub-class 4.2 Structural Post Features

Feature	Length	Width	Depth	Volume	Zones
273	.60	.32	.45	.07	1

Table 5.41. Lohmann–Stirling Sub-class 5.2 Small Rectangular Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
156	3.30	—	—	—	—	—	.10	.07
436	4.20	2.15	.16	1.95	9.03	1.44	.13	—
n=2	x=3.75	x=2.07	x=.16	x=1.80	x=7.81	x=1.44	x=.12	x=.07
	s= .64	s=.11	s=0.0	s=.21	s=1.72	s=0.0	s=.02	s=0.0

Table 5.42. Lohmann–Stirling Phase Sub-class 5.2 Structures—Long Axis Orientation

Feature	CMG North	True North
156	5° 00'	3° 30'
436	80° 30'	79° 00'

Table 5.43. Lohmann–Stirling Sub-class 6.5 Other Post Structures

Feature	Length	Width	Depth	Area
347	3.00	2.40	—	7.2

Table 5.44. Lohmann–Stirling Sub-class 7.4 Large, Amorphous, Midden-filled Borrows

Feature	Length	Width	Depth	Volume	Zones
68	2.00	1.35	.20	.16	1

Table 5.45. Inventory of Early Stirling Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
36	16		108	94	96	423	118				209	14	116	99	12	179	131	30		141	375	453		162	251	
37	52		115	263	120		119				320	51	236	154	97	207	387	228		224	434				269	
43	53		170	264	166		294					238	252	188	155					227	435					
90	259		226	271	180		420					245	366	212	186					244	458					
157			284	291	181									215	286					254	463					
169			323	385	182									233	304					314	466					
171			327		288									285	306					388						
308			340		292									309	336											
316			343		293									348	393											
					356									349												
					360									361												
					382									380												
					396									409												
					464									425												
														426												
														437												
														438												
														455												

Table 5.46. Early Stirling Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
36	1.40	1.25	.06	.04	1
37	1.25	.96	.08	.04	1
43	1.88	.76	.12	.07	1
90	.80	.57	.16	.03	1
157	.65	.43	.14	.01	1
169	.85	.84	.41	.17	1
171	.28	.28	.10	.003	1
308	1.02	.42	.18	.07	1
316	.42	.22	.17	.01	1
n=9	x=.95	x=.64	x=.16	x=.05	
	s=.50	s=.34	s=.10	s=.05	

Table 5.47. Early Stirling Sub-class 1.2 Pit Features

Feature	Length	Width	Depth	Volume	Zones
16	1.31	1.25	.26	.13	2
52	1.76	1.42	.14	.13	2
53	1.72	1.06	.14	.10	2
259	1.67	1.21	.19	.15	1
n=4	x=1.61	x=1.23	x=.18	x=.13	
	s=.21	s=.15	s=.06	s=.02	

Table 5.48. Early Stirling Sub-class 2.1 Exterior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
108	1.04	.92	.24	.18	1
115	1.20	—	.41	—	1
170	1.24	1.16	.40	.62	1
226	.82	.59	1.05	.98	4
284	1.43	1.10	.56	.70	3
323	.80	.80	.71	.21	5
327	1.02	1.00	.64	.34	1
340	1.18	1.14	.48	.48	3
343	1.30	1.04	.62	.81	3
n=9	x=1.11	x=.97	x=.57	x=.54	
	s= .21	s=.19	s=.23	s=.29	

Table 5.49. Early Stirling Sub-class 2.2 Interior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
94	1.32	1.06	.56	.35	1
263	1.00	.90	.55	.39	3
264	.80	.70	.61	.27	5
271	.96	.82	.54	.34	2
291	1.51	1.36	.32	.38	1
385	1.06	.68	.54	.39	2
n=6	x=1.11	x=.92	x=.52	x=.35	
	s=.26	s=.26	s=.10	s=.04	

Table 5.50. Early Stirling Sub-class 2.3 Small Cache Pits

Feature	Length	Width	Depth	Volume	Zones
96	.92	.74	.25	.05	1
120	.55	—	.17	.01	1
166	.37	.28	.23	.01	1
180	.51	.38	.34	.07	1
181	.80	.80	.44	.16	1
182	.44	.37	.15	.01	1
288	.27	.23	.08	.002	1
292	.76	.52	.24	.04	2
293	.30	.27	.27	.02	3
356	.38	.38	.38	.04	2
360	.48	.46	.33	.06	1
382	.50	.36	.37	.06	2
396	.32	.27	.18	.01	1
464	.44	.44	.21	.02	1
n=14	x=.50	x=.42	x=.26	x=.04	
	s=.20	s=.17	s=.10	s=.04	

Table 5.51. Early Stirling Sub-class 2.4 Burial Pit

Feature	Length	Width	Depth	Volume	Zones
423	1.28	.82	.83	.44	2

Table 5.52. Early Stirling Sub-class 3.1 Hearths

Feature	Length	Width	Depth	Volume	Zones
118	.46	.46	.14	.01	4
119	.37	.37	.06	.003	3
294	.72	.46	.35	.03	5
420	.30	.28	.06	.002	1
n=4	x=.46	x=.39	x=.15	x=.01	
	s=.18	s=.09	s=.14	s=.01	

Table 5.53. Early Stirling Sub-class 3.5 Pit Ovens and Roasting/Steaming Facilities

Feature	Length	Width	Depth	Volume	Zones
209	3.00	1.40	.80	3.36	5
320	5.52	3.10	.13	2.04	2
n=2	x=4.26	x=2.25	x=.46	x=2.70	
	s=1.78	s=1.2	s=.47	s=.93	

Table 5.54. Early Stirling Sub-class 4.1 Free Standing Post Features

Feature	Length	Width	Depth	Volume	Zones
14	.24	.20	.41	.04	1
51	.15	.15	.13	.002	1
238	.14	.12	.16	.002	1
245	.20	.20	.14	.04	1
n=4	x=.18	x=.17	x=.21	x=.01	
	s=.05	s=.04	s=.02	s=.02	

Table 5.55. Early Stirling Sub-class 4.2 Structural Post Features

Feature	Length	Width	Depth	Volume	Zones
116	.35	.32	.48	.03	2
236	.46	.20	.16	.01	1
252	.41	.20	.23	.01	1
366	.34	.28	.29	.03	1
n=4	x=.39	x=.25	x=.29	x=.02	
	s=.05	s=.06	s=.14	s=.01	

Table 5.56. Early Stirling Sub-class 5.1 Rectangular Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
99	6.60	2.90	—	2.27	19.14	—	.11	.06
154	4.75	3.10	—	1.53	14.72	—	.14	.09
188	5.80	2.80	—	2.07	16.24	—	.12	.09
212	5.00	2.80	—	1.78	14.00	—	.14	—
215	5.70	3.00	—	1.90	17.10	—	.13	.07
233	5.84	2.86	.30	2.04	16.70	5.01	.15	—
285	4.80	2.40	.21	2.00	11.52	2.42	.12	—
309	5.50	2.66	—	1.87	14.63	—	.15	—
348	5.10	2.70	.20	1.88	13.77	2.75	.13	.11
349	5.70	3.10	.25	1.83	17.67	4.42	.13	.12
361	5.00	2.60	.19	1.92	13.00	2.47	.12	.10
380	6.00	3.60	—	1.66	21.60	—	.16	.08
409	5.30	2.85	.30	1.85	15.10	4.53	.10	—
425	5.40	2.60	—	2.07	14.04	—	.13	—
426	6.00	3.60	—	1.66	21.60	—	.11	—
437	4.85	2.95	.20	1.64	14.30	2.86	.15	—
438	4.65	2.95	.25	1.57	13.71	3.43	.15	—
455	5.51	3.10	.26	1.77	17.08	4.44	.14	—
n=18	x=5.42 s= .53	x=2.92 s= .31	x=.24 s=.04	x=1.85 s= .19	x=15.88 s= 2.79	x=3.59 s=1.01	x=.13 s=.02	x=.09 s=.02

Table 5.57. Early Stirling Sub-class 5.1 Structures—Long Axis Orientation

Feature	CMG North	True North
99	348° 00'	346° 30'
154	4° 00'	2° 30'
188	0° 00'	358° 30'
212	353° 00'	351° 30'
215	354° 00'	352° 30'
233	71° 00'	69° 30'
285	108° 00'	106° 30'
309	88° 00'	86° 30'
348	81° 30'	80° 00'
349	85° 30'	84° 00'
361	83° 30'	82° 00'
380	85° 30'	84° 00'
409	79° 30'	78° 00'
425	346° 00'	344° 30'
426	91° 30'	90° 00'
437	96° 00'	94° 30'
438	96° 00'	94° 30'
455	88° 30'	87° 00'

Table 5.58. Early Stirling Sub-class 5.2 Structures Long Axis Orientation

Feature	CMG North	True North
12	93° 00'	91° 30'
97	7° 30'	6° 00'
155	6° 00'	4° 30'
186	84° 00'	82° 30'
286	69° 30'	68° 00'
304	85° 30'	84° 00'
306	85° 00'	83° 30'
336	95° 00'	93° 30'
393	77° 30'	76° 00'

Table 5.59. Early Stirling Sub-class 5.3 Structures—Long Axis Orientation

Feature	CMG North	True North
179	94° 30'	93° 00'
207	3° 30'	2° 00'

Table 5.60. Early Stirling Sub-class 5.4 Structures-- Long Axis Orientation

Feature	CMG North	True North
131	358° 30'	357° 00'
387	78° 30'	77° 00'

Table 5.61. Inventory of Early Stirling Cluster 1 Features

Sub-class																									
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
169			108		120		118						116	425	97	179					458					
			115		180		119							426							463					
			170		181																466					
					182																					
					464																					

Table 5.62. Inventory of Early Stirling Cluster 2 Features

Sub-class																									
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
37	52			94	96									99			131									
43	53				166																					
90																										
157																										

Table 5.63. Inventory of Early Stirling Cluster 3 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
36				263								14	236	188	12	207				244	375			162	251	
316				264								51	252	212	186					254	434				269	
				271								238		215	306					314	435					

Table 5.64. Inventory of Early Stirling Cluster 4 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
171	16		226											437	154					224						
														438	155					227						

Table 5.65. Inventory of Early Stirling Cluster 5 Features

Sub-class																									
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
			284	291	292		294				320			349	286		387					453				
					293		420							361	336											
					382									380	393											
					396									409												

Table 5.66. Inventory of Early Stirling Cluster 6 Features

Sub-class																									
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
			340											309												
														455												

Table 5.67. Inventory of Early Stirling Cluster 7 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
308	259		323	385	288								366	285	304					141						
			327		356									348						388						
			343		360																					

Table 5.68. Early Stirling Sub-class 5.2 Small Rectangular Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
12	3.40	2.32	.29	1.46	7.88	2.29	.09	—
97	4.00	2.50	.16	1.60	10.00	1.60	.18	.12
155	3.75	2.36	—	1.58	8.85	—	.11	.07
186	4.40	2.20	.30	2.00	9.68	2.90	.13	—
286	4.70	2.20	.26	2.13	10.34	2.69	.14	.08
304	4.50	2.40	.15	1.87	10.80	1.62	.13	.08
306	—	2.36	—	—	—	—	.13	—
336	4.50	2.40	—	1.87	10.80	—	.13	.13
393	3.80	2.30	—	1.65	8.74	—	.11	—
n=9	x=4.13	x=2.34	x=.23	x=1.77	x=9.64	x=2.22	x=.13	x=.10
	s= .46	s= .10	s=.07	s= .23	s=1.06	s= .60	s=.02	s=.03

Table 5.69. Early Stirling Sub-class 5.3 Square or Nearly Square Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
179	3.70	3.20	—	1.15	11.84	—	.17	.11
207	5.60	4.80	—	1.16	26.88	—	.14	.14
n=2	x=4.65	x=4.0	x=--	x=1.5	x=19.36	x=–	x=.15	x=.12
	s=1.34	s=1.13	x=–	s= .01	s=10.63	s=–	s=.02	s=.02

Table 5.70. Early Stirling Sub-class 5.4 Unusual Shaped Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
131	6.10	2.40	.16	—	19.64	3.15	.11857	.10
387	4.20	2.20	.27	1.90	9.38	2.53	.1425	—
n=2	x=3.62	x=1.87	x=.21	x=1.9	x=14.51	x=2.84	x=.13	x=.10
	s=1.94	s= .73	s=.08	s=–	s= 7.25	s=.44	s=.02	s=0.0

Table 5.71. Early Stirling Sub-class 6.1 Arbors, Kitchens, Ramadas, and Sweat Lodges

Feature	Length	Width	Depth	Area	Volume
30	4.20	3.40	.10	14.28	—
228	6.32	3.44	.32	21.74	6.95
n=2	x=5.26	x=3.42	x=.21	x=18.01	x=6.95
	s=1.50	s= .03	s=.15	s= 5.27	s=0.0

Table 5.72. Early Stirling Sub-class 6.3 Screens, Fences, Racks, and Benches

Feature	Length	Width	Depth	Area	Volume
141	2.20	1.50	—	3.30	—
224	.39	.13	.10	—	.005
227	.50	.12	.15	—	.009
244	3.28	>2.00	—	>6.56	—
254	1.82	.10	.27	—	.05
314	4.60	.10	.38	—	.17
388	3.56	1.94	—	6.91	—
n=7	x=2.33	x=.84	x=.22	x=>5.59	x=.06
	s=1.58	s=.92	s=.12	s= 1.99	s=.08

Table 5.73. Early Stirling Sub-class 6.4 Miscellaneous Trenches

Feature	Length	Width	Depth	Volume
375	2.28	.15	.11	.04
434	.93	.20	—	—
435	2.30	.18	.23	.09
458	5.70	3.00	—	—
463	>2.18	.14	.09	>.03
466	>2.16	.14	.30	>.05
n=6	x=2.59	x=.63	x=.18	x=.05
	s=1.61	s=1.16	s=.10	s=.03

Table 5.74. Early Stirling Sub-class 6.5 Other Post Structures

Feature	Length	Width	Depth	Area	Volume
453	3.40	2.00	—	6.80	—

Table 5.75. Inventory of Late Stirling Features

Sub-class																									
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
102	313		105	112	127		18	208	13			111	231	92				202		432				392	399	242
113			107	125	152		110	277				219		168				418		451					439	454
319			114	160	218		117					330		177						459						
			124	203	280		234					331		178												
			272	267	339		357							199												
				334	395									213												
				354	461									324												
				394	462									381												
				422										390												
														391												
														430												
														443												

Table 5.76. Late Stirling Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
102	.51	.42	.28	.03	1
113	1.00	.72	.15	.08	1
319	1.07	1.02	.24	.06	1
n=3	x= .86	x= .72	x= .22	x= .06	
	s= .30	s= .30	x= .07	s= .02	

Table 5.77. Late Stirling Sub-class 1.2 Pit Features

Feature	Length	Width	Depth	Volume	Zones
313	.83	.70	.20	.04	2

Table 5.78. Late Stirling Sub-class 2.1 Exterior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
105	1.40	1.22	.33	.44	2
107	1.32	1.23	.46	.59	1
114	1.20	1.10	.64	.84	4
124	.87	.80	.53	.37	1
272	1.90	1.54	.33	.38	2
n=5	x=1.34	x=1.18	x=.46	x=.52	
	s= .37	s= .27	s=.13	s=.20	

Table 5.79. Late Stirling Sub-class 2.2 Interior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
112	1.15	.85	.56	.44	2
125	.69	.67	.68	.23	3
160	.98	.86	.40	.26	1
203	.79	.64	1.03	.34	6
267	.84	.80	.80	.32	2
334	1.02	.92	.73	.54	5
354	1.54	1.40	1.08	.74	2
394	1.22	1.08	.75	.50	3
422	.99	.61	.81	.63	2
n=9	x=1.02	x=.87	x=.76	x=.44	
	s=.25	s=.25	s=.21	s=.17	

Table 5.80. Late Stirling Sub-class 2.3 Small Cache Pits

Feature	Length	Width	Depth	Volume	Zones
127	.54	.46	.14	.01	1
152	.74	.36	.37	.12	1
218	.94	.93	.35	.17	2
280	.54	.30	.45	.07	1
339	.60	.50	.32	.07	2
395	.69	.53	.57	.16	2
461	.39	.37	.34	.01	1
462	.35	.34	.19	.01	1
n=8	x=.60	x=.47	x=.34	x=.08	
	s=.19	s=.20	s=.13	s=.07	

Table 5.81. Late Stirling Sub-class 3.1 Hearths

Feature	Length	Width	Depth	Volume	Zones
18	.92	.90	.06	.02	1
110	.33	.33	.07	.003	1
117	.50	.45	.12	.01	1
234	.78	.74	.09	.02	3
357	.36	.32	.08	.003	1
n=5	x=.59	x=.55	x=.08	x=.01	
	s=.26	s=.26	s=.02	s=.01	

Table 5.82. Late Stirling Sub-class 3.2 Firepits

Feature	Length	Width	Depth	Volume	Zones
208	.70	.68	.48	.11	3
277	.94	.41	.47	.18	1
n=2	x=.82	x=.54	x=.47	x=.14	
	s=.17	s=.19	s=.01	s=.05	

Table 5.83. Late Stirling Sub-class 3.3 Firepits with Posts

Feature	Length	Width	Depth	Volume	Zones
13	2.43	2.11	.18	.35	1

Table 5.84. Late Stirling Sub-class 4.1 Free Standing Post Features

Feature	Length	Width	Depth	Volume	Zones
111	.28	.27	.31	.01	1
219	.39	.30	.26	.01	1
330	.32	.28	.23	.01	1
331	.26	.24	.22	.01	1
n=4	x=.31	x=.27	x=.25	x=.01	
	s=.06	s=.02	s=.04	s=0.0	

Table 5.85. Late Stirling Sub-class 4.2 Structural Post Features

Feature	Length	Width	Depth	Volume	Zones
231	.52	.49	.29	.03	1

Table 5.86. Late Stirling Sub-class 5.1 Rectangular Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
92	7.48	4.30	.25	1.73	32.16	8.04	.18	.079
168	6.16	3.20	—	1.92	19.71	—	.26	—
177	6.16	2.90	.12	2.12	17.86	2.14	.15	.079
178	6.50	3.80	.25	1.71	24.17	6.17	.17	.08
199	5.70	3.00	.23	1.90	17.10	3.93	.17	.17
213	6.60	3.40	.11	1.94	22.44	2.47	.14	—
324	5.85	2.80	.32	2.08	16.38	5.24	.17	—
381	6.40	3.90	—	1.64	24.96	—	.14	—
390	6.00	3.55	.18	1.69	21.30	3.83	.12	—
391	5.50	3.20	.18	1.71	17.60	3.17	.12	—
430	6.70	4.50	—	1.48	30.50	—	.13	—
443	7.20	>4.00	—	1.85	28.80	—	.15	—
n=12	x=6.35	x=3.5	x=.25	x=1.80	x=22.74	x=4.37	x=.16	x=.10
	s=.59	s=.56	s=.07	s= .19	s=5.45	s=2.00	s=.04	s=.04

Table 5.87. Late Stirling Sub-class 5.1 Structures--Long Axis Orientation

Feature	CMG North	True North
92	68° 30'	67° 00'
168	72° 00'	70° 30'
177	8° 30'	7° 00'
178	105° 00'	103° 30'
199	356° 30'	355° 00'
213	94° 30'	93° 00'
324	6° 30'	5° 00'
381	88° 00'	86° 30'
390	89° 30'	88° 00'
391	91° 30'	90° 00'
430	81° 30'	80° 00'
443	357° 00'	355° 30'

Table 5.88. Inventory of Late Stirling Cluster 1 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
113			105 107 114 124	112 125 160	461 462		110							168 177 430						432 459						

Table 5.89. Inventory of Late Stirling Cluster 2 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
102					127 152		117					111		92												

Table 5.90. Inventory of Late Stirling Cluster 3 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
319	313				218		18		13				231	178 443						451						242

Table 5.91. Inventory of Late Stirling Cluster 4 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
			272	203 267	280		234	208 277				219		199 213				202							439	

Table 5.92. Inventory of Late Stirling Cluster 5 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
				354 422			357							381				418						392		

Table 5.93. Inventory of Late Stirling Cluster 6 Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
				334 394	339 395							330 331		324 390 391											399	454

Table 5.94. Late Stirling Sub-class 6.1 Arbors, Kitchens, Ramadas, and Sweat Lodges

Feature	Length	Width	Depth	Volume	Area
202	4.40	2.61	.19	2.18	9.92
418	5.40	3.45	.28	—	18.63
n=2	x=4.90	x=3.03	x=.25	x=2.18	x=14.27
	s= .71	s= .59	s=.06	s=0.0	s= 6.16

Table 5.95. Late Stirling Sub-class 6.3 Screens, Fences, Racks, and Benches

Feature	Length	Width	Depth	Volume
432	2.36	.15	.08	.03
451	4.00	.15	.35	.21
459	6.14	.20	.43	.52
n=3	x=4.17	x=.17	x=.29	x=.25
	s=1.89	s=.03	s=.18	s=.25

Table 5.96. Late Stirling Sub-class 7.2 Fill Features

Feature	Length	Width	Depth	Volume
392	1.20	.88	.12	.13

Table 5.97. Late Stirling Sub-class 7.3 Miscellaneous Other Features

Feature	Length	Width	Depth	Volume
399	.70	.48	.15	.02
439	4.80	2.00	.25	2.40
n=2	x=2.75	x=1.24	x=.20	x=1.21
	s=2.90	s=1.07	s=.07	s=1.68

Table 5.98. Late Stirling Sub-class 7.4 Large, Amorphous, Midden-filled Borrows

Feature	Length	Width	Depth	Volume	Zones
242	6.82	3.26	.21	4.09	2
454	2.20	1.42	.18	.21	1
n=2	x=4.51	x=2.34	x=.19	x=2.15	
	s=3.27	s=1.30	s=.02	s=2.74	

Table 5.99. Inventory of General Stirling Features

	Sub-class																								
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
19	302	22	221		362		123			138		34	353	427				365	20	33	431			355	176	71
23		48					136			142		75		428							433					89
31		95								150		76		429							449					452
32										153		77									450					
35										172		191														
38										173																
39										183																
41																										
42																										
47																										
54																										
55																										
60																										
72																										
78																										
84																										
85																										
86																										
87																										
88																										
93																										
98																										
100																										
101																										
104																										
106																										
122																										
134																										
135																										
137																										
214																										
241																										
255																										
281																										
311																										
315																										
364																										

Table 5.100. General Stirling Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
19	1.50	.83	.11	.05	1
23	1.12	.71	.08	.01	1
31	.34	.29	.10	.004	1
32	.60	.53	.03	.004	1
35	.19	.17	.14	.003	1
38	.66	.56	.14	.02	1
39	1.20	1.12	.18	.05	1
41	1.40	1.10	.07	.04	1
42	.79	.75	.14	.03	1
47	1.36	1.12	.07	.04	1
54	1.15	.95	.10	.04	1
55	1.70	1.30	.12	.10	1
60	.84	.78	.07	.02	1
72	1.70	1.20	.12	.09	1
78	.28	.24	.07	.001	1
84	.31	.22	.24	.01	1
85	.32	.26	.09	.05	1
86	.24	.23	.05	.001	1
87	.95	.80	.14	.03	1
88	.80	.64	.06	.01	1
93	.50	.30	.13	.01	1
98	.70	.60	.10	.02	1
100	1.19	.81	.09	.03	1
101	1.20	.62	.16	.03	1
104	.81	.64	.06	.02	1
106	.90	.75	.07	.02	1
122	.50	.47	.10	.01	1
134	.56	.26	.08	.005	1
135	.66	.62	.05	.01	1
137	.37	.34	.27	.09	1
214	1.30	.95	.14	.07	1
241	.98	.90	.08	.03	1
255	.88	.66	.14	.02	1
281	.51	.48	.08	.01	1
311	1.08	.98	.25	.08	1
315	.84	.52	.27	.04	1
364	.34	.22	.16	.01	1
n=37	x=.83 s=.42	x=.65 s=.31	x=.12 s=.06	x=.03 s=.03	

Table 5.101. General Stirling Sub-class 1.2 Pit Features

Feature	Length	Width	Depth	Volume	Zones
302	.89	.36	.29	.11	2

Table 5.102. General Stirling Sub-class 1.3 Pit Features

Feature	Length	Width	Depth	Volume	Zones
22	.85	.48	.07	.01	1
48	1.30	1.05	.07	.04	1
95	.84	.68	.15	.03	1
n=3	x=1.00	x=.74	x=.10	x=.03	
	s= .26	s=.29	s=.05	s=.01	

Table 5.103. General Stirling Sub-class 2.1 Exterior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
221	1.40	.75	.28	.29	

Table 5.104. General Stirling Sub-class 2.3 Small Cache Pits

Feature	Length	Width	Depth	Volume	Zones
362	.21	.20	.23	.01	1

Table 5.105. General Stirling Sub-class 3.1 Hearths

Feature	Length	Width	Depth	Volume	Zones
123	.50	.42	.15	.01	1
136	.47	.41	.15	.01	1
n=2	x=.48	x=.41	x=.15	x=.01	
	s=.02	s=.01	s=0.0	s=0.0	

Table 5.106. General Stirling Sub-class 3.4 Smudge Pits

Feature	Length	Width	Depth	Volume	Zones
138	.22	.20	.21	.007	1
142	.38	.34	.21	.01	1
150	.30	.24	.08	.002	1
153	.22	.16	.10	.002	1
172	.13	.12	.05	.0003	1
173	.13	.10	.27	.003	1
183	.14	.12	.35	.005	1
n=7	x=.22	x=.18	x=.18	x=.004	
	s=.09	s=.08	s=.11	s=.003	

Table 5.107. General Stirling Sub-class 4.1 Free Standing Post Structures

Feature	Length	Width	Depth	Volume	Zones
34-1	.18	.18	.14	.0002	1
34-2	.23	.23	.27	.0001	1
75	.92	.78	.15	.04	2
76	.15	.14	.10	.001	1
77	.95	.90	.15	.02	2
191	.20	.20	.22	.007	1
n=6	x=.44	x=.40	x=.17	x=.01	
	s=.38	s=.34	s=.06	s=.01	

Table 5.108. General Stirling Sub-class 4.2 Structural Post Features

Feature	Length	Width	Depth	Volume	Zones
353	.43	.36	.68	.08	2

Table 5.109. General Stirling Sub-class 5.1 Rectangular Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Post Diam.
427	5.00	4.00	—	1.25	20.00	—	.13	—
428	4.20	3.40	—	1.23	14.20	—	.12	—
429	6.00	4.10	—	1.46	24.60	—	.13	.14
n=3	x=5.07	x=3.83	x=–	x=1.31	x=19.63	x=–	x=.13	x=.14
	s= .90	s= .38	s=–	s= .13	s= 5.17	s=–	s=.006	s=0.0

Table 5.110. General Stirling Sub-class 5.1 Structures--Long Axis Orientation

Feature	CMG North	True North
427	83° 00'	81° 30'
428	84° 30'	83° 00'
429	80° 30'	79° 00'

Table 5.111. General Stirling Sub-class 6.1 Arbors, Kitchens, and Ramadas

Feature	Length	Width	Depth	Area	Volume
365	5.20	>3.30	—	17.16	—

Table 5.112. General Stirling Sub-class 6.2 Granaries

Feature	Length	Width	Depth	Area
20	2.00	1.40	—	2.80

Table 5.113. General Stirling Sub-class 6.3 Screens, Fences, Racks, and Benches

Feature	Length	Width	Depth	Area	Volume
33-1	4.17	.19	.12	8.5	.09
33-2	2.06	.20	.20		.08
	x=3.11 s=1.49	x=.195 s=.007	x=.16 s=.06	x=8.5 s=0.0	x=.085 s=.007

Table 5.114. General Stirling Sub-class 6.4 Miscellaneous Trenches

Feature	Length	Width	Depth	Volume
431	3.57	.11	.14	.05
433	1.00	.08	.08	.006
449	2.68	.12	.10	.03
450	1.13	.10	.09	.01
n=4	x=2.09 s=1.24	x=.10 s=.02	x=.10 s=.03	x=.02 s=.02

Table 5.115. General Stirling Sub-class 7.2 Fill Features

Feature	Length	Width	Depth	Volume
355	.36	.34	.24	.05

Table 5.116. General Stirling Sub-class 7.3 Miscellaneous Other Features

Feature	Length	Width	Depth	Volume
176	>.78	.60	.49	.23

Table 5.117. General Stirling Sub-class 7.4 Large, Amorphous, Midden-filled Borrows

Feature	Length	Width	Depth	Volume	Zones
71	2.00	1.34	.18	.14	1
89	3.87	2.50	.27	1.20	1
452	6.20	5.50	.09	3.07	1
n=3	x=4.02	x=3.11	x=.18	x=1.47	
	s=2.10	s=2.15	s=.09	s=1.48	

Table 5.118. Inventory of Moorehead Features

Sub-class																										
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
130	129		158	256	140		139	164				419	363			143	332	239		144	406					
163	270		167	370	147		174	374					376			250				424	445					
165			184	371	268		175	379					377			367				441	446					
372			198	373	352		258	398					378			368					447					
386			200		397		421						383			369					448					
402			230		410								413			408										
			232		411											440										
			260		412											442										
			261		414																					
			318		415																					
			329		416																					
			401		417																					
			403																							
			407																							

Table 5.119. Inventory of Moorehead Cluster 1 Features

Sub-class																									
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
130	129		158	256	140		139	164				419	363			143	332	239		144	406					
163	270		167		147		174	379					413			250				424	448					
165			184		268		175									408				441						
			198		352		258									440										
			200		410		421									442										
			230		411																					
			232		412																					
			260		414																					
			261		415																					
			318		416																					
			329		417																					

Table 5.120. Inventory of Moorehead Cluster 2 Features

Sub-class																									
1.1	1.2	1.3	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	4.1	4.2	5.1	5.2	5.3	5.4	6.1	6.2	6.3	6.4	6.5	7.1	7.2	7.3	7.4
372			401	370	397			374					376			367					445					
386			403	371				398					377			368					446					
402			407	373									378			369					447					
													383													

Table 5.121. Moorehead Sub-class 1.1 Pit Features

Feature	Length	Width	Depth	Volume	Zones
130	1.18	1.10	.15	.06	1
163	1.04	.78	.28	.09	1
165	.54	.28	.08	.005	1
372	.75	.51	.23	.07	1
386	1.90	.82	.29	.18	1
402	1.35	.94	.11	.06	1
n=6	x= 1.13	x= .74	x= .19	x= .08	
	s= .48	s= .30	s= .09	s= .06	

Table 5.122. Moorehead Sub-class 1.2 Pit Features

Feature	Length	Width	Depth	Volume	Zones
129	1.00	.87	.33	.20	2
270	.50	.50	.25	—	2
n=2	x=.75	x=.68	x=.29	x=.20	
	s=.35	s=.26	s=.06	s=0.0	

Table 5.123. Moorehead Sub-class 2.1 Exterior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
158	.99	.79	.51	.24	2
167	1.84	1.20	.84	.23	3
184	.70	.50	.52	.18	3
198	.82	.80	.45	.24	1
200	.80	.79	.36	.18	1
230	1.24	1.16	.41	.46	1
232	1.30	.90	.37	.43	1
260	1.60	.76	.53	—	1
261	1.54	1.32	.58	.93	4
318	1.15	1.05	.26	.25	1
329	1.14	.96	.31	.25	1
401	1.38	1.25	.27	.37	1
403	1.10	1.10	.51	.48	1
407	.46	.44	.53	—	1
n=14	x=1.15	x=.93	x=.46	x=.35	
	s= .38	s=.27	s=.15	s=.21	

Table 5.124. Moorehead Sub-class 2.2 Interior Cache/Storage Pits

Feature	Length	Width	Depth	Volume	Zones
256	1.20	1.14	.54	.58	3
370	1.10	1.06	1.04	.70	11
371	1.39	1.30	.68	.43	14
373	1.06	.94	.68	.43	2
n=4	x=1.19	x=1.11	x=.73	x=.53	
	s= .15	s= .15	s=.21	s=.13	

Table 5.125. Moorehead Sub-class 2.3 Small Cache Pits

Feature	Length	Width	Depth	Volume	Zones
140	.40	.31	.12	.06	1
147	.36	.27	.11	.005	1
268	.60	.55	.86	.11	2
352	.90	.50	.13	—	1
397	.44	.29	.12	.01	1
410	.62	.58	.11	.02	1
411	.56	.52	.53	.12	1
412	.42	.28	.35	.05	1
414	.42	.43	.53	.06	1
415	.44	.35	.61	.08	1
416	.80	.68	.21	.05	2
417	.80	.62	.22	.05	1
n=12	x=.56	x=.45	x=.32	x=.05	
	s=.18	s=.14	s=.25	s=.04	

Table 5.126. Moorehead Sub-class 3.1 Hearths

Feature	Length	Width	Depth	Volume	Zones
139	.77	.60	.37	.07	1
174	.47	.47	.09	.01	2
175	.50	.39	.11	.01	2
258	.54	.32	.21	.01	2
421	.64	.60	.17	.03	1
n=5	x=.58	x=.48	x=.19	x=.02	
	s=.12	s=.12	s=.11	s=.03	

Table 5.127. Moorehead Sub-class 3.2 Firepits

Feature	Length	Width	Depth	Volume	Zones
164	.76	.60	.16	.03	2
374	1.26	.58	.22	.07	2
379	1.12	.98	.57	.49	1
398	.54	.50	.10	.04	2
n=4	x=.92 s=.33	x=.66 s=.21	x=.26 s=.21	x=.16 s=.22	

Table 5.128. Moorehead Sub-class 4.1 Free Standing Post Features

Feature	Length	Width	Depth	Volume	Zones
419	.30	.28	.12	.004	1

Table 5.129. Moorehead Sub-class 4.2 Structural Post Features

Feature	Length	Width	Depth	Volume	Zones
363	.36	.18	.51	.03	3
376	.32	.30	.25	.02	1
377	.24	.14	.20	.006	1
378	.24	.21	.11	.004	1
383	.34	.26	.19	.01	1
413	.30	.30	.24	.02	1
n=6	x=.30 s=.05	x=.23 s=.06	x=.25 s=.14	x=.01 s=.01	

Table 5.130. Moorehead Sub-class 5.3 Square or Nearly Square Wall Trench Structures

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
143	5.10	4.00	.20	1.27	20.40	4.08	.14	–
250	4.55	3.50	.18	1.30	15.92	2.87	.16	–
367	6.68	5.60	—	1.19	37.41	—	.16	–
368	5.40	5.30	—	1.01	28.62	—	.17	–
369	4.60	3.70	—	1.24	17.02	—	.16	–
408	3.90	3.25	—	1.20	12.67	—	.13	–
440	4.60	4.00	—	1.15	18.40	—	.16	–
442	4.85	4.00	—	1.21	19.40	—	.18	–
n=8	x=4.96 s=.82	x=4.168 s= .838	x-.19 s=.01	x=1.20 s=.09	x=21.23 s= 7.99	x=3.47 s=.85	x=.16 s=.01	x=– s=–

Table 5.131. Moorehead Sub-class 5.4 Unusual-shaped Wall Trench Structure

Fea.	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
332	3.80	3.70	.26	1.02	14.06	3.66	.12	–

Table 5.132. Moorehead Sub-class 5.3 Orientation of Structures

Feature	CMG North	True North
143	357° 00'	355° 30'
250	352° 00'	350° 30'
367	0° 00'	358° 30'
368	3° 30'	2° 00'
369	4° 30'	3° 00'
408	7° 00'	5° 30'
440	7° 00'	5° 30'
442	11° 30'	10° 00'

Table 5.133. Moorehead Sub-class 6.1 Arbors, Kitchens, Ramadas, and Sweat Lodges

Feature	Length	Width	Depth	Area
239	4.50	3.35	.23	15.07

Table 5.134. Moorehead Sub-class 6.3 Screens, Fences, Racks, and Benches

Feature	Length	Width	Depth	Area	Volume
144	4.00	3.65	—	14.6	—
424	5.30	—	.42	—	—
441	4.83	.20	.32	—	.31
n=3	x=4.71 s= .66	x=1.92 s=2.44	x=.37 s=.07	x=14.6 s=0.0	x=.31 s=0.0

Table 5.135. Moorehead Sub-class 6.4 Miscellaneous Trenches

Feature	Length	Width	Depth	Area	Volume
406	4.55	3.50	—	15.92	—
445	2.04	.10	.11	—	.02
446	5.50	.16	—	—	—
447	3.80	.20	—	13.3	—
448	3.24	.24	.16	—	.12
n=5	x=3.83	x=.72	x=.13	x=14.61	x=.07
	s=1.31	s=1.36	s=.03	s= 1.85	s=.07

VI. SUMMARY COMPARISON OF FEATURES, FEATURE CLUSTERS, AND COMPONENTS

> *I believe . . . that archaeologists can conceive profitably of settlement patterns in terms of three levels. The first and most basic of these is the individual building or structure; the second, the manner in which these structures are arranged within a single community; and third, the manner in which communities are distributed over the landscape* [Trigger 1968:55].

The 468 features excavated at the ICT–II have been presented as a population of non-portable artifacts. This population was subjected to intensive analyses leading to the development of a formal/functional feature classification. While such an approach to the study of site structure is not new, past efforts have realized widely varying degrees of success (cf. Binford et al. 1970; Stewart 1977; Collins 1979; O'Brien and Warren 1982; Mehrer 1982; Hargrave et al. 1983; Dickens and Ward 1985; among others). The classification developed here has helped to facilitate interpretation of the physical composition of the various Mississippian occupations of the ICT–II. Physical data from the component feature assemblages will now be used as the basis from which to infer details of the changing economic and social lives of Cahokia's Mississippian residents.

Feature Classes: A Diachronic Perspective

Archaic features and features representing the Indeterminate Mississippian and Lohmann-Stirling pseudo-components are excluded from consideration. In addition to data for Lohmann, Early and Late Stirling, and Moorehead phase features, combined data for *all* Stirling features (Early, Late, and General) are presented. This should facilitate comparison of ICT–II data with FAI–270 data, for which early and late Stirling facets were not recognized, a situation primarily attributable to the comparatively small sample of Stirling material recovered.

Tables 6.1 through 6.20 display mean metric data for significant feature sub-classes per component. Also provided in those tables is the statistic representing each sub-class as a percentage of all features per component. Implications of these and other data are summarily discussed below, and salient trends observed in the ICT–II data are briefly compared to selected FAI–270 data.

Class 1—Pits of Indeterminate Function

Twenty-seven percent of all Mississippian features excavated at the ICT–II (126 out of 466) were Class 1 pits. Sub-class 1.1 features (n=109) account for 24% of all features and 87% of the class. Sub-class 1.2 (n=10) represents 2% of the feature total and 8% of the class, and Sub-class 1.3 (n=7) makes up 1.5% of Mississippian features and 6% of Class 1 features.

By definition, Class 1 features have volumes no greater than 0.2 m^3. Inter-component comparison of the various Class 1 sub-classes, therefore, is not particularly meaningful. It is worth noting that Sub-class 1.1 features comprise only 8% of all Moorehead features, while accounting for 21% of all Lohmann, and 20% of all Stirling features. Also, Moorehead phase Sub-class 1.2 pits have larger volumes than those of the earlier phases (Table 6.2).

Class 2—Cache/Storage Facilities

Storage is an interesting aspect of the Mississippian economy, as varying storage patterns through time may reflect periods of resource surplus or scarcity and, by implication, varying levels of social stress. However, there are problems associated with the use of storage facilities to predict adequacy of food supply. Among these are our limited ability to recognize the remains of surface, or above-ground, storage facilities and our inability to state with certainty what commodities were subject to pit storage. Also, apparent increases in storage and/or caching are explainable in a number of ways. For example, an increase in such activity may reflect: a) a surplus of commodities; b) a conscious effort to offset periods of shortage; or c)

increased mobility resulting in periods of site abandonment. Integration of feature data with other data sets recovered from the ICT–II may help to sort these problems out.

Class 2 features comprise 21% (n=97) of all Mississippian features. Of these, Sub-class 2.1 exterior cache/storage pits (n=35) represent 7.5% of all features and 36% of the class; Sub-class 2.2 interior pits (n=20) account for 4% of all features and 21% of the class; and Sub-class 2.3 small cache pits (n=41) make up 9% of all Mississippian features and 42% of the class.

The percentage of exterior pits and small cache pits per component increases through time (Tables 6.4 and 6.6). Interior cache/storage pits, however, were most numerous during Late Stirling times (Table 6.5).

While exterior cache/storage pits occurred less frequently during the Lohmann phase, their mean volume was far greater than such pits in other components (Table 6.4). This suggests that pit storage during Lohmann times may have been communal, reminiscent of the Emergent Mississippian pattern (c.f., Kelly et al. 1984b). The progressively more numerous and smaller Sub-class 2.1 pits of Stirling and later Moorehead times may argue, in turn, for increased privatization of storage practices. Similar trends have been noted at other Mississippian sites in the American Bottom (e.g., Mehrer 1986).

If interior cache/storage pits are viewed as the most private type of storage facilities, the Late Stirling sub-phase represents a time of intense privatization in storage behavior. Fifteen percent of all Late Stirling features were large, interior cache/storage pits (Table 6.5). The lowest ratio, per component, of external to internal pits is also found in the Late Stirling component (0.55). In ascending order, the ratios of external to internal cache/storage pits for the other components are: All Stirling (1.0); Early Stirling (1.5); Moorehead (3.5); and Lohmann (5.0).

Many researchers are inclined to view subsurface storage facilities as true caches, places where goods are stored and/or hidden during temporary abandonment of a site. If one accepts such a premise, ICT–II Feature Class 2 data suggest that such abandonment would have been most likely during Moorehead times. Class 2 pits represent 41% of all Moorehead features. By comparison, Class 2 features represent only 12% of all Lohmann features, 28% of Early Stirling features, 36% of Late Stirling features, and 22% of All Stirling features.

Pursuing this line, it might be argued that during periods of settlement abandonment, exterior cache/storage pits would have been more secure than interior pits. Exterior pits would be easier to camouflage against the possibility of theft, while pits located inside standing structures could be easily discovered. The Moorehead phase had the largest ratio of external cache/storage pits to structures (1.25) of any Mississippian component at the ICT–II. In descending order, the ratios of external cache/storage pits to structures for the other components are: Late Stirling (0.41; predominately due to Cluster 1); All Stirling (0.35); Early Stirling (0.29) and Lohmann (0.28).

The ratios of internal cache/storage pits to structures per component are expectedly different. In this case, Late Stirling had the greatest ratio (0.75) followed in descending order by Moorehead (0.5), All Stirling (0.35), Early Stirling (0.19) and Lohmann (0.07).

ICT–II storage pit data were compared to comparable data from a number of sites excavated elsewhere in the American Bottom under the auspices of the FAI–270 Project. Unfortunately, data from many of the more significant Mississippian sites could not be used for comparison because pit volumes have not been published. Sites with available and appropriate published data included BBB Motor (Emerson and Jackson 1984), Range (Mehrer 1982), Robert Schneider (Fortier 1985), Sandy Ridge Farm (Jackson 1980), George Reeves (McElrath and Finney 1987), and the Olszewski Borrow Pit site (Hanenberger 1986).

The number of pit features per component with volumes exceeding 0.2 m^3 was recorded for six American Bottom sites with Lohmann and/or Stirling components. Dividing those figures by the number of structures per component yielded a synthetic ratio of "storage" pits to structures, which was then compared to ICT–II data. In all cases, the ratio per component of pits to structures is greater on the outlying American Bottom sites than at the ICT–II.

For the Lohmann component at the ICT–II, the ratio of pits larger than 0.2 m^3 to structures is 0.36. By comparison, corresponding ratios at Range are 0.75, at George Reeves, 1.6, and at Olszewski Borrow Pit, 1.0.

The ratio of all Stirling pits with volumes exceeding 0.2 m^3 to all Stirling structures at the ICT–II is 0.7. At BBB Motor, the ratio was an astounding 8.25 (this figure did not include thirteen burial pits with volumes greater than 0.2 m^3, which would have inflated the ratio to 11.5). Whether the numerous

relatively large pits at BBB Motor were used for commodity storage or as mortuary facilities, their high frequency when compared to the number of structures present is one factor, among many, that sets BBB Motor apart from other excavated sites in the American Bottom. However, comparative ratios are also high for other sites when compared to the ICT–II. Stirling ratios for other selected sites are: Range, 3.4; Sandy Ridge Farm, 1.0; Robert Schneider, 1.5; and Olszewski Borrow Pit, 3.0.

Mehrer (1986:5) has suggested "that households of dispersed rural villages managed their storable goods with greater autonomy than their Emergent Mississippian predecessors or their more 'citified' neighbors in the ceremonial centers." By way of explanation, Mehrer (1985:5) proposed the following:

> With higher levels of regional integration comes greater overall socio-economic power. There is more energy in the system available for control through intensified subsistence, superior technology, higher populations, and so forth. Social power tends to concentrate at the higher levels,but even with a relative decrease of power at low levels, absolute power at low levels can actually increase, especially in matters that are inconsequential to higher authorities, or matters that can be kept secret. At a small scale, this may be what we are seeing in rural households that have abundant private storage of presumably valuable commodities. Isolated farmsteads with private storage and processing of their food stuffs may have been made possible by the shifting of social control away from local village leaders to regional elites at the nearby but relatively distant mound centers.

This argument is compelling; however, there are alternative hypotheses worth considering. For instance, populations at the mound centers, such as the occupants of the ICT–II, may not have been *prevented from* controlling their own commodities, so much as they were being *provided for*, via redistribution from within the centers themselves, or from without, possibly from the dispersed villages. If this was the case, the need for private storage at the mound centers would have been minimized. Also, assuming that the dispersed villages were providing the mound centers with surplus commodities, particularly maize, it seems likely, as Mehrer infers, that storage of such vast quantities would have been in large storehouses under elite control. On the other hand, since agricultural production was primarily a function of the dispersed farming villages, substantial private storage facilities at these sites may have held seed grain from year to year. In the latter case, surplus may have been funneled to the mound centers, but the farmers themselves would have been responsible for storing the seed needed to make the next year's crop a dependable reality.

Another factor that must be considered in explaining the variable frequency of Class 2 storage pits at American Bottom sites is the possibility (more likely, probability) that alternative storage facilities existed at some sites. We have noted, for instance, the presence of both public and private barbocoa-like granaries in the ICT–II Lohmann feature assemblage. Likewise, the small, rectangular Sub-class 5.2 structures, so conspicuous in the Early Stirling feature clusters, have been mentioned as possible facilities for storage of surpluses. If such features were used for commodity storage by the "citified" dwellers of the American Bottom ceremonial centers, the issue of relative autonomy of storage practices vis a vis the dispersed farmsteads and the mound centers (cf. Mehrer 1986) requires re-examination. Certainly the use of such facilities would indicate greater commodity wealth for the occupants of the mound centers than for the occupants of the smaller outlying sites—an expected phenomenon.

Class 3—Fire-Related Features

The popularity of different heating and cooking techniques and facilities, as inferred from the various Class 3 features at the ICT–II, can be examined diachronically.

Class 3 features (n=50) represent 11% of all Mississippian features. Sub-class 3.1 hearths (n=18) comprise 4% of all Mississippian features and 36% of the class; Sub-class 3.2 fire-pits (n=15) make up 3% of all features and 30% of the class; Sub-class 3.3 fire-pits with posts (n=3) account for less than 1% of all features and 6% of the class; Sub-class 3.4 smudge pits (n=8) comprise about 2% of all features and 16% of the class; and finally, Sub-class 3.5 large pit ovens and/or roasting/steaming facilities account for about 1% of all Mississippian features and 12% of the class.

Data on Class 3 features from the ICT–II should serve to dispel, once and for all, the long held and often repeated myth that hearths are not found in Cahokia houses. Fifty-five percent of the Sub-class 3.1 hearths excavated at the tract were located inside structures. At the same time, the distribution of Class 3 features per component shows some interesting variation (Tables 6.7, 6.8, 6.9, 6.10 and 6.11).

The Lohmann assemblage of 107 features includes only one Sub-class 3.1 hearth. While the hearth was inside a structure, the structure was unusual, a sweat lodge, rather than a typical house. A new myth is born—hearths are not found in Lohmann phase Cahokia houses! Levity aside, this phenomenon deserves comment, however hypothetical.

That the absence of interior hearths suggests seasonal occupation of the site is flatly rejected. While not discounting the possibility that there was seasonal coalescence of regional populations at the site for economic or ritual purposes, the existence of a stable resident population seems undeniable. One could argue that interior hearths would have been as necessary for mosquito control during the summer as they would have been for warmth in winter. This argument assumes that structures were used in the same way throughout the year, a questionable proposition.

The absence of hearths in Lohmann structures was proably related to architectural exigencies. Lohmann structures, with their deep semi-subterranean basins and small interiors, would have been thermodynamically efficient for seasonal heating and cooling. For most of the year such structures may have been efficiently heated by a combination of body heat and small, contained heat sources (Michael L. Hargrave, personal communication 1987). A contained heat source, such as wood embers collected in a pot, might have provided a safe and efficient source of radiant heat within the enclosed and restricted space of a Lohmann pit-house. Pots used in such a fashion should display fire clouds on their interior surfaces. This attribute was not systematically recorded during the ICT–II ceramic analysis, although it does not appear on whole vessels from the tract (George Holley, personal communication 1987). As with other ceramic containers, one would expect vessels used as stoves to be portable, and therefore to exhibit attributes such as suspension holes like those evident on Lohmann phase seed jars, or handles like those common on Lohmann phase jars. Ultimately, the absence of hearths within Lohmann structures may reflect cultural attitudes toward fire itself. If such is the case, we may never fully understand the phenomonon.

Hearths as a percentage of all features per component increases at the ICT–II through the Late Stirling sub-phase and remains rather constant into the Moorehead phase (Table 6.7). Among All Stirling hearths, the ratio of interior to exterior hearths is 1.75. For the Moorehead component, the comparable ratio is 0.66. In general, it appears that as structure basins became more shallow and interior structure area increased, interior hearths became more common. An exception was noted for the Early Stirling sub-phase, where three of the four interior hearths recognized for the component were situated within Sub-class 5.2 small, rectangular structures.

For the purpose of this discussion, and for reasons described elsewhere in this report, Sub-class 3.2 fire-pits and Sub-class 3.3 fire-pits with associated postmolds can be combined as a single group. While hearths may have been absent in the Lohmann feature assemblage, fire-pits were more common during the Lohmann than during subsequent phases. Sub-class 3.2 and 3.3 features account for 8% of all Lohmann features, and only 1% of all Stirling and 5% of all Moorehead features. The Lohmann fire-pits are also less scattered in their distribution than those of the later phases. This suggests that, like storage behavior, cooking may have been more of a communal or group activity in Lohmann times than it was later.

Of the eight Sub-class 3.4 smudge pits excavated, all but one were associated with a proposed Stirling phase hide working area. The exception was located in the midst of a proposed processing and cooking area in Lohmann Cluster 1. The Lohmann smudge pit may have been used in hide processing, but it may also have served to keep flies and mosquitos away from the cooking area.

The frequency and distribution of Sub-class 3.5 pit ovens and/or roasting/steaming facilities reinforces the notion of Lohmann phase communalism vis a vis cooking and food storage (Table 6.11). The locations of these features among and within the three defined Lohmann clusters suggests that these large cooking facilities were shared by the households represented by the feature clusters. The use of such large facilities persisted into the Early Stirling sub-phase, perhaps for feast or ritual purposes, but they were absent in later assemblages. In short, the trend from communal to private practices in both storage and cooking behavior is a striking aspect of the Lohmann-Stirling-Moorehead continuum.

Class 4—Postmolds & Post Pits

Class 4 free-standing and structural posts (n=40) make up nearly 9% of all Mississippian features. Of these, Sub-class 4.1 plaza, patio or door posts (n=25) comprise 5% of all features and 62% of the class, while Sub-class 4.2 structural posts (n=15) account for 3% of all Mississippian features and 37% of the class. The reader is reminded that Sub-class 4.2 is a somewhat artificial category, as most structural posts were not assigned separate feature numbers. Cross-component comparison of the sub-class is, therefore, not meaningful.

Analysis of Sub-class 4.1 free-standing post features is more revealing. Cross-component comparisons of Sub-class 4.1 data support the proposed progression, just outlined, from community-oriented activities to privately-oriented activities through time. The percentage of free-standing post features, remains fairly constant from Lohmann through Stirling times, but drops considerably during the Moorehead phase (Table 6.12). In addition, there was a definite trend away from the very large posts, which dominated the Lohmann phase community plaza, to smaller posts, which became increasingly likely during the later phases to be associated with individual feature clusters, or single structures. The mean volume of Lohmann phase free-standing post-pits is 100 times greater than the mean volume of later Sub-class 4.1 features (Table 6.12). The size of the Lohmann posts is comparable to the most massive post features found elsewhere at Cahokia (Fowler 1969; Witry 1969; Collins et al. 1986) and in the American Bottom (Porter 1969).

Class 5—Enclosed Wall Trench Structures

Class 5 enclosed wall trench structures (n=71) account for 15% of all Mississippian features. Sub-class 5.1 rectangular wall trench structures (n=43) represent 9% of all Mississippian features and 60% of the class; Sub-class 5.2 small, rectangular wall trench structures (n=13) account for 3% of all features and 18% of the class; Sub-class 5.3 nearly square wall trench structures (n=10) make up 2% of all features and 14% of the class; and Sub-class 5.4 unusually shaped wall trench structures (n=5) comprise 1% of all Mississippian features and 7% of the class.

The Sub-class 5.1 rectangular wall trench structure was the principal domestic building type during the Lohmann and Stirling phases. The Lohmann component structures display great uniformity, exhibiting moderately deep to deep basins, few internal features, and only rare evidence of rebuilding. One striking aspect of these structures is that, in every case, the long axis is oriented toward the cardinal directions. Lohmann structures were shorter and narrower than comparable Stirling structures, and had deeper basins. Applying McConaughy's (1985) criteria for determining roof form from the location of structural support elements, we see that five of the ten Lohmann phase Sub-class 5.1 structures were probably gable-roofed, while three may have been hip-roofed. Roof form could not be determined for two Lohmann structures.

Structure size (area) increased progressively from the Lohmann phase through the Stirling phase. At the same time, structure basin depths decreased (Table 6.14).

During the Early Stirling sub-phase, many rectangular wall trench structures underwent extensive rebuilding, often on the same spot. A significant number of Early Stirling structures continued to have long axes aligned north-south or east-west. However, many other structures were aligned differently, departing from the pattern which had so characterized Lohmann buildings. Structures sometimes occurred in modified V-shaped or right angled pairs. Among the Early Stirling Sub-class 5.1 structures, 11 (61%) appear to have been of the gable-roof type, three may have had hipped-roofs, while roof form could not be determined for three others.

The typical structure, indeed the only Class 5 structure form, of the Late Stirling sub-phase was a comparatively large Sub-class 5.1 rectangular wall trench building. One reason for the increased size of Late Stirling structures would have been to accommodate interior storage facilities, which became more common at that time, other types of facilities having been abandoned. These interior storage pits were often located in corners, or medially along walls. Some Late Stirling structures continued to exhibit long axis orientations approximating cardinal directions. Other structures appear to have been oriented haphazardly, or in reference to other community features. Late Stirling domestic structures were arranged individually or in pairs within feature clusters. In contrast to earlier components, only three (25%) of the Late Stirling Sub-class 5.1 structures seem to have had gabled-roofs. Hipped-roof architecture was more common (n=8, 66%).

This may have been an engineering response dictated by the larger size of the Late Stirling buildings. The roof style of one Late Stirling building was undetermined.

Sub-class 5.2 small (<11 m2) rectangular wall trench structures are present in both the Lohmann and Early Stirling feature assemblages, but did not occur later (Table 6.15). The sub-class accounts for 2% of all Lohmann features and 8% of all Early Stirling features. Various interpretations have been offered regarding possible functions of these structures. That they were used, at least seasonally, for commodity storage is a strong possibility. They may have replaced the elevated barbacoa-type granaries, more common during the Lohmann phase, as the predominant storage facility of Early Stirling times. Use of these structures as women's huts or as winter dwellings are considered the most viable functional alternatives to their use as storage facilities. There is strong ethnohistoric evidence that women's huts were common features within the settlements of virtually all the southeastern Indians. On the other hand, their small size may have made the Sub-class 5.2 structures easy to heat and therefore suitable for winter habitation. The common occurrence of hearths within these structures supports the latter interpretation to a degree. The location of structural support elements indicates that both Lohmann phase Sub-class 5.2 structures had hipped-roofs. Four (57%) of the small Early Stirling structures may have been gable-roofed, one was hip-roofed and the roof type of two structures could not be determined.

One interesting note concerns the distribution of Early Stirling small rectangular structures. When all other features are removed from the Early Stirling pattern, the small structures define the same pattern as that displayed in the component composite. This lends support to two interrelated hypotheses: 1) that discrete households existed; and 2) that the small, rectangular structures were associated with specific households.

Sub-class 5.3 square/nearly square structures were represented in both the Early Stirling and Moorehead phase assemblages (Table 6.16). The two Early Stirling examples of this sub-class contribute to the diversity of architectural forms characterizing that sub-phase.

Square, or nearly square, wall trench structures were typical of Moorehead domestic buildings. Sub-class 5.3 buildings account for 11% of all Moorehead features and 100% of Moorehead dwellings. While the largest of the Moorehead structures are larger than any of the structures of earlier components, the mean area of all Moorehead Sub-class 5.3 structures is smaller than the mean of all Late Stirling (Sub-class 5.1) structures. This suggests that while structure size increased from Stirling to Moorehead and into Sand Prairie times, the great increase in structure size occurred late in the Moorehead phase. ICT–II data indicate that, initially, there actually may have been a decrease in individual building size during the Late Stirling/ Early Moorehead transition.

The orientation of Moorehead structures appears to have been governed by environmental rather than by cultural factors. All Moorehead buildings were situated on high ground and at least one house appears to have had a south-facing entrance. Roof form was not readily discernible; however, architectural details and a review of extant reconstructions (e.g., Nash 1968) suggest that these structures more likely were arbor-roofed (domed) or hip-roofed, than gable-roofed. The mean wall trench width and mean post diameter of Sub-class 5.3 structures is greater than the corresponding statistics for other Class 5 structures. The larger trench and post dimensions may have been engineering responses necessitated by larger roof spans. The larger posts and trenches may also indicate that by the Moorehead phase, high-quality construction timber was more readily available to the residents of the site because massive stockade constructions and other large-scale public works were no longer being undertaken.

Sub-class 5.4 irregular-shaped wall trench structures are present in the Lohmann, Early Stirling, and Moorehead phase assemblages (Table 6.17). In each case, these features represent 2% or less of all features per component. There is a natural tendency to view these unusual structures as somehow special. However, except in the case of Lohmann T-shaped Structure 287, whatever may have been special about the buildings in this sub-class other than shape, is difficult to define.

Feature 287 quite clearly served as a focal point for the ICT–II Lohmann community. The building's location within the community, between two household clusters, and the spatial relationships that can be traced between the building and certain features in each cluster suggest that Structure 287 was both a mechanism which physically separated, at the same time that it socially integrated, the two households. The location of Feature 287 at the southwest corner of the Lohmann plaza is probably significant beyond coincidence, but for the time being remains unexplained.

Cross-cultural ethnographic studies have led various researchers to draw social inferences from statistical data pertaining to domestic structures. One such inference is that relative affluence or social status is reflected in house size (Whiting and Ayres 1968; Netting 1982). If the residents of the American Bottom mound centers enjoyed higher status than the inhabitants of outlying communities, one might expect to find that they lived in larger houses.

Mean structure floor area, per ICT–II component, has been compared to similar data from several FAI–270 project sites (Milner et al. 1984:167). To achieve these comparisons, it was necessary to ignore sub-class distinctions and to use the mean for all ICT–II Class 5 structures per component. This is unfortunate as metric distinctions for domestic, special function, and possible community structures are blurred, and the standard deviation for each component is greatly increased. Even so, the resulting comparisons proved quite interesting (Figure 6.1).

The mean floor area of Lohmann phase structures at the ICT–II is significantly larger than the means of comparable structures excavated at a number of FAI–270 sites, among them, Carbon Dioxide, Turner, DeMange, and Range. Of the FAI–270 sites examined, only Lohmann, the type site for the Lohmann phase, was characterized by a larger structure area mean than that for the ICT–II Lohmann component. However, the standard deviation for the Lohmann site structures is comparatively large and may serve to negate the significance of the mean. Assuming that house size does reflect social status, it follows that Cahokia's occupants enjoyed a relatively elevated status within the American Bottom during Lohmann times. However, a cautionary note must be sounded: Whiting and Ayres (1968:124) found that "96 per cent of the societies using floor plans more than 200 square feet in area [18.6 m^2] are characterized by either extended families or status distinctions or both . . . [but] the implications of smaller houses are indeterminate." Lohmann structure area means generally cluster below 15 m^2 (13.49 m^2) at the ICT–II. Also, the possibility that Mississippian households occupied multi-structure compounds has not been taken into account.

A glance at Figure 6.1 reveals the floor area means of structures representing the Early and Late Stirling facets at the ICT–II to be clearly divergent. The mean for Early Stirling structures at the ICT–II is 14.36 m^2, while the Late Stirling mean is 22.74 m^2. The mean for All Stirling structures at the ICT–II is 16.94 m^2, which is similar to the means dervied for the selected FAI–270 sites (Figure 6.1). Since the ICT–II and FAI–270 Stirling data are not directly comparable, Figure 6.1 does not provide the basis for using relative structure size to infer (possible) relative status distinctions. More likely, what is represented in the Stirling segment of Figure 6.1 is the relative chronological placement of the FAI–270 sites within the Stirling phase. For example, based on their structural area means, which fall well below the ICT–II All Stirling mean, the Stirling components at the Labras Lake, Turner, Demange, and BBB Motor sites may represent the Early Stirling sub-phase. Likewise, the Stirling components at the Sandy Ridge Farm and Range sites may represent the Late Stirling sub-phase, as structures at those sites were on the average larger than the ICT–II All Stirling mean. It should be noted that the ICT–II Late Stirling mean of 22.75 m^2 is well above the 18.6 m^2 threshhold that Whiting and Ayres (1968) have found characteristic of vertically differentiated societies.

The preceding comments also apply to the Moorehead component data from the ICT–II, and the Turner and Julien sites (Figure 6.1). As noted earlier, structure size increased progressively throughout the Moorehead phase. The higher mean structure area recorded for the Moorehead component at the Julien site (Figure 6.1) may indicate a relatively late date for that component in the Moorehead phase. On the other hand, considering the degenerative nature of Cahokia during Moorehead times, perhaps the larger area mean of Moorehead structures at the Julien site actually does reflect relatively greater group affluence, or at least greater household size at the latter site.

Class 6—Other Structures

Class 6 structures (n=51) represent about 11% of all Mississippian features. Sub-class 6.1 features (n=11), interpreted variously as arbors, kitchens, ramadas, and a sweat-lodge, represent 2% of all Mississippian features and 21% of the class; Sub-class 6.2 granaries (n=5) account for 1% of all features and nearly 10% of the class; Sub-class 6.3 features (n=16), believed to represent screens, fences, racks, and benches comprise 3% of all features and 31% of the class; Sub-class 6.4 miscellaneous trenches (n=17)

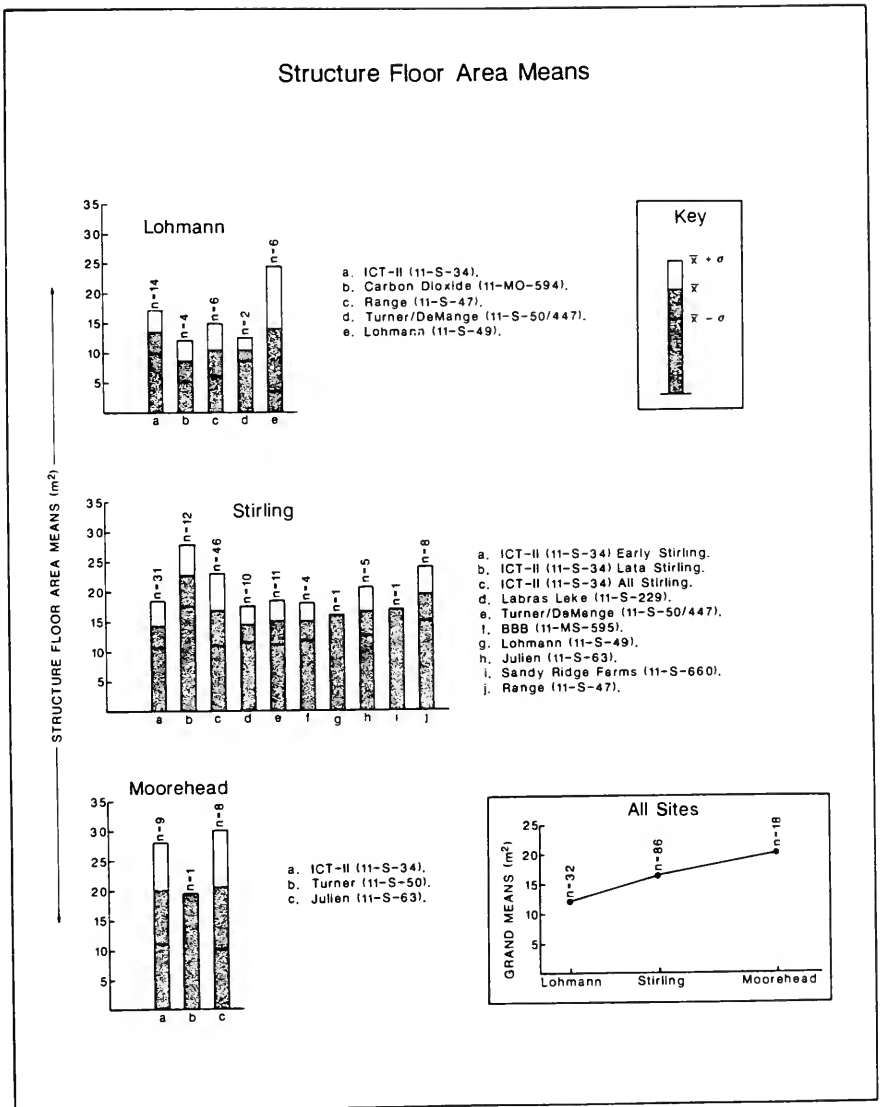


Figure 6.1. Comparison of structural floor area means from the ICT-II and selected FAI-270 project sites.

represent about 3% of all features and one-third of the class; and Sub-class 6.5 'other post structures' (n=2) account for 0.4% of all Mississippian features and about 4% of the class.

Few obvious trends are apparent in Class 6 structures through time. Lohmann component structures tentatively identified as detached kitchens may have been functionally replaced during later phases by arbors and/or ramadas. The single sweat-lodge identified at the ICT–II was also associated with the Lohmann component.

Barbacoa-like granaries were most common among Lohmann remains. These Sub-class 6.2 features were associated with individual household clusters, and in one instance, with the Lohmann plaza. The location of the latter suggests it may have been a public granary. Its location, near the large Lohmann plaza posts, is reminiscent of earlier Emergent Mississippian storage practices. One implication of this pattern may be that during Lohmann times commodities were distributed to the local community from the bureaucratic core. Such a situation would have served the dual purpose of reinforcing traditional social mechanisms, while providing a degree of reciprocity for the religious and economic sanctions afforded the chiefly elite. Such contrivances are typical, even if not constant correlates, of complex chiefdoms (cf. Fried 1960, 1967; Service 1962, 1975; Peebles and Kus 1977). The virtual absence of Sub-class 6.2 features during later occupations of the tract reflects the change in social attitudes regarding storage behavior discussed previously.

The only significant trend noted for Sub-classes 6.3, 6.4, and 6.5 is that benches became very common in Sub-class 5.1 structures during the Late Stirling sub-phase. These features almost invariably paralleled and were next to a short axis wall in the houses.

Class 7—Other Features

Class 7 features (n=33) represent approximately 7% of all Mississippian features. With the exception of Sub-class 7.4 midden-filled borrow pits, Class 7 features are individually anomalous, and therefore, not amenable to comparative metric or diachronic analysis. Sub-class 7.4 midden-filled borrow pits (n=17) represent less than 4% of all Mississippian features and over 51% of the class.

Sub-class 7.4 features were most prevalent during the Lohmann occupation of the tract. The sub-class accounts for 11% of all Lohmann features, while representing only 2% of all Stirling features (Table 6.20). It has been suggested that the soil removed from these borrow pits was used to create berms around Lohmann structures, affording some protection against flooding.

Feature Clusters and Components: A Diachronic View

The existence of discrete feature clusters was a major point underlying the descriptions presented in Chapter 5. Such clusters have been defined for the Lohmann, Early Stirling, Late Stirling, and Moorehead occupations of the ICT–II. These clusters have been considered "archaeological households," remains left by culturally circumscribed domestic groups that may have been families or residential groups. The composition and organization of ICT–II feature clusters is summarized below.

Variables pertinent to this overview of feature clusters include: number of clusters per component; relative cluster area; relative number of features per cluster; relative number of feature classes and sub-classes represented per cluster; and organization of clusters on the landscape. Due to the configuration of the ICT–II excavation block, many of the feature clusters represent only portions of larger patterns. This situation necessarily introduces bias into any consideration of feature clusters. In the discussion that follows, all clusters are accorded equal weight despite the possibility that some may be more complete than others. This is justifiable if one assumes that all components are affected more or less equally by the same bias.

Mean data for each cluster variable, based on all clusters from all components, provide a baseline from which individual components can be assessed. Given four components, the mean number of clusters per component is 4.5, with an average area per component equal to 377 m^2. Areas were determined by multiplying the maximum east-west by maximum north-south distances between features. There are an average of 17 features per cluster, representing an average of five feature classes and eight feature sub-classes.

The Lohmann component includes three feature clusters. Lohmann Clusters 1 and 2 are thought to be more or less complete, while only a portion of Cluster 3 is represented within the excavated area. Despite the fact that the excavated portion of Cluster 3 probably represents less than half of that cluster's total area, the average Lohmann cluster area was computed to be 1072 m^2. This is the largest areal average for any component and is 2.8 times larger than the mean of all other clusters. The Lohmann means for number of features (x=26), number of classes (x=6), and number of sub-classes (x=12) are also higher than the comparable means for all clusters.

Stirling component data, in both its Early and Late facets, are significantly different from the Lohmann data. All Stirling cluster means for all variables fall below the comparable means for all clusters. It is worth noting here that Early and Late Stirling clusters are situated near the periphery of the excavation block. Also, many features included in the General Stirling 'component' which are probably associated with one or another of the Early or Late Stirling clusters, are not included in this analysis. While these factors may partly account for the lower Stirling means, there remains an obvious trend toward a greater number of definable feature clusters, which individually cover less area and contain fewer features and feature classes.

The Early Stirling component includes seven feature clusters; the average cluster covers 310 m^2. This area represents 82% of the mean area for all ICT–II clusters. The average number of features per cluster is 4, the average number of feature classes per cluster is 4, and the average number of sub-classes per cluster is 7.

For the six Late Stirling component feature clusters the figures are as follows: mean cluster area = 142 m^2; mean number of features per cluster = 6; mean number of feature classes per cluster = 5; mean number of feature sub-classes per cluster = 7.

The Lohmann-Stirling trend toward progressively smaller clusters, represented by fewer features and types of features, does not continue into the Moorehead phase. The Moorehead component contains two feature clusters, which average 271 m^2 in extent. The mean area of Moorehead clusters equals 72% of the mean area of all defined clusters. However, the mean number of features per cluster (x=34), mean number of feature classes (x=6), and the mean number of feature sub-classes represented per cluster (x=10) are all higher than the corresponding figures for all clusters.

Assuming that the feature clusters defined at the ICT–II are the archaeological representations of individual domestic groups living at the tract, the diachronic changes in the size and composition of feature clusters may reflect changing social patterns. While such change cannot be substantiated on the basis of a lone data set (cultural features), certain suggestions can be offered.

First, it can be argued that the relative size of feature clusters reflects the relative size of the groups utilizing them. For instance, comparison of the areas of Lohmann and Stirling clusters suggests that the Lohmann clusters were used by supra-family domestic units while the Stirling clusters represent smaller units, perhaps extended or nuclear families. Certainly the feature patterns related to storage and cooking behavior do not contradict such an inference. On the contrary, the communal orientation of Lohmann storage behavior and the more private nature of Stirling storage practices tend to support this idea.

Several studies have proposed positive correlations between the size of household compounds and the relative wealth and number of their inhabitants (e.g., Kramer 1982; Netting 1982). If one accepts this premise, the occupants of the ICT–II Lohmann clusters were both more numerous and wealthier, overall, than their Stirling counterparts, a proposition that could be tested using other data sets.

The composition of feature clusters is also suggestive of certain social correlates. Greater numbers of features and feature types occur in clusters associated with both the Lohmann and Moorehead components than in Stirling clusters. It could be inferred from this evidence that more different domestic and subsistence activities were carried out in the Lohmann and Moorehead feature clusters than in the Stirling clusters. Might this, in turn, suggest that certain activities were being performed *for* the Stirling inhabitants of the tract and at a place or places other than at the tract itself? Is this evidence that craft specialization, or possibly even a market economy, was in effect during the Stirling occupation of Cahokia? These are intriguing possibilities, suggesting future research directions.

The organization of feature clusters on the landscape is markedly different for each of the phases represented at the ICT–II. Changes in local community organization were no doubt partly dictated by the amount of available space during a particular period. As it grew, the community would have expanded first into open areas. At the ICT–II, this pattern is most noticeable in the transition from Lohmann to Early

Stirling. However, there definitely appear to have been cultural factors at work in addition to practical considerations in the shaping of the various communities.

The ICT–II Lohmann community represents the original occupation of the tract. As a 'new' community, it affords an excellent opportunity to document preferred or "ideal" community organization. The rapid occupation of this area of the site during the early Mississippian period suggests two possible situations: 1) there was a rapid overall increase in site population; and/or 2) there was a massive restructuring of the overall community plan, which forced the abandonment of certain traditional residential areas (e.g., Tracts 15A and 15B, which may have been slated for development of the ceremonial precinct) and the establishment of new residential areas in previously marginal sections of the site.

There is a strong indication that in its layout the ICT–II Lohmann community conforms to a generally linear north-south pattern. Many significant Lohmann features are situated along a line roughly corresponding to the E460 baseline (Figure 6.2). It appears that the Lohmann feature clusters developed along this axis. This pattern, coupled with the fact that the long axes of all Lohmann structures are oriented to the cardinal directions, suggest the new Lohmann community at the ICT–II was planned and that the plan was tied to a pan-Cahokia pattern. There can be little doubt that the organization of this community conforms to Fowler's (1969) proposed Cahokia Grid or Axis. This grid was also a significant determinant in the placement of many mounds and other features at the site during the Lohmann phase. It is difficult to escape the conclusion that the development of the Cahokia site during the Lohmann phase, including residential development, was planned by a central authority or bureaucracy.

The settlement pattern at the ICT–II changed markedly during the subsequent Stirling phase (Figure 6.3). It is apparent that the evolution of the community from Lohmann to Stirling times was partly a matter of construction in previously unoccupied spaces. However, during the Stirling phase, community development decisions seem to have been made at the household level, rather than at some higher bureaucratic level. Many Stirling structures were extensively rebuilt, often on the same spot within feature clusters. After its initial establishment, the Early Stirling community was characterized by considerable spatial continuity. The Cahokia grid was no longer a primary criterion for the placement of feature clusters or individual structures.

The feature clusters defined for the Early Stirling component persisted into the Late Stirling occupation of the tract. While the composition of these clusters changed in terms of their constituent elements, the spatial configuration of the clusters on the landscape did not. During the Stirling phase, the central portion of the tract remained essentially devoid of features. The possibility that this area served as a public plaza is strongly suggested. Stirling feature clusters appear to be oriented around this plaza area.

A significant factor in the orientation of at least two of the Late Stirling clusters (2 and 3) was probably the proximity of Mound 107 immediately south of the ICT–II excavation block. The occupant(s) of the structure on the mound must have enjoyed elevated status within the local community. During the Late Stirling sub-phase, then, the distribution and orientation of feature clusters appears to have been related to the development of a local mound/plaza complex rather than having been dictated by a centralized authority.

The Moorehead settlement at the ICT–II was strikingly different from earlier patterns (Figure 6.4). As there is no real continuity apparent from Late Stirling to Moorehead times, the possibility of a hiatus between the two occupations cannot be ruled out. The Moorehead settlement consists of feature clusters which are restricted to the highest elevations of the tract. This situation may reflect Cahokia's decline as a major regional polity. As the site lost power, prestige, and population in Moorehead times, household site selection appears to have been based on environmental rather than cultural factors. The residual population at the site may have been free to occupy any convenient, preferably high location, unencumbered by the cultural or political constraints of the past.

Structure shape and size have been found by some ethnographic researchers to be correlated with other aspects of a groups' behavioral system, a finding that may prove useful when applied to an archaeological context. Whiting and Ayres (1968), for instance, demonstrate a significant correlation between the use of rectilinear structures and sedentism. They also note a strong correlation between rectilinear structures and monogamy. Studies by Ember (1973) and Divale (1977) suggest that the mean structure area of a given society is a strong predictor of that society's residence rules. Both of these studies found that "matrilocal societies almost always have houses with larger floor areas than patrilocal societies" (Divale 1977:111). Divale (1977:114) was able to conclude that:

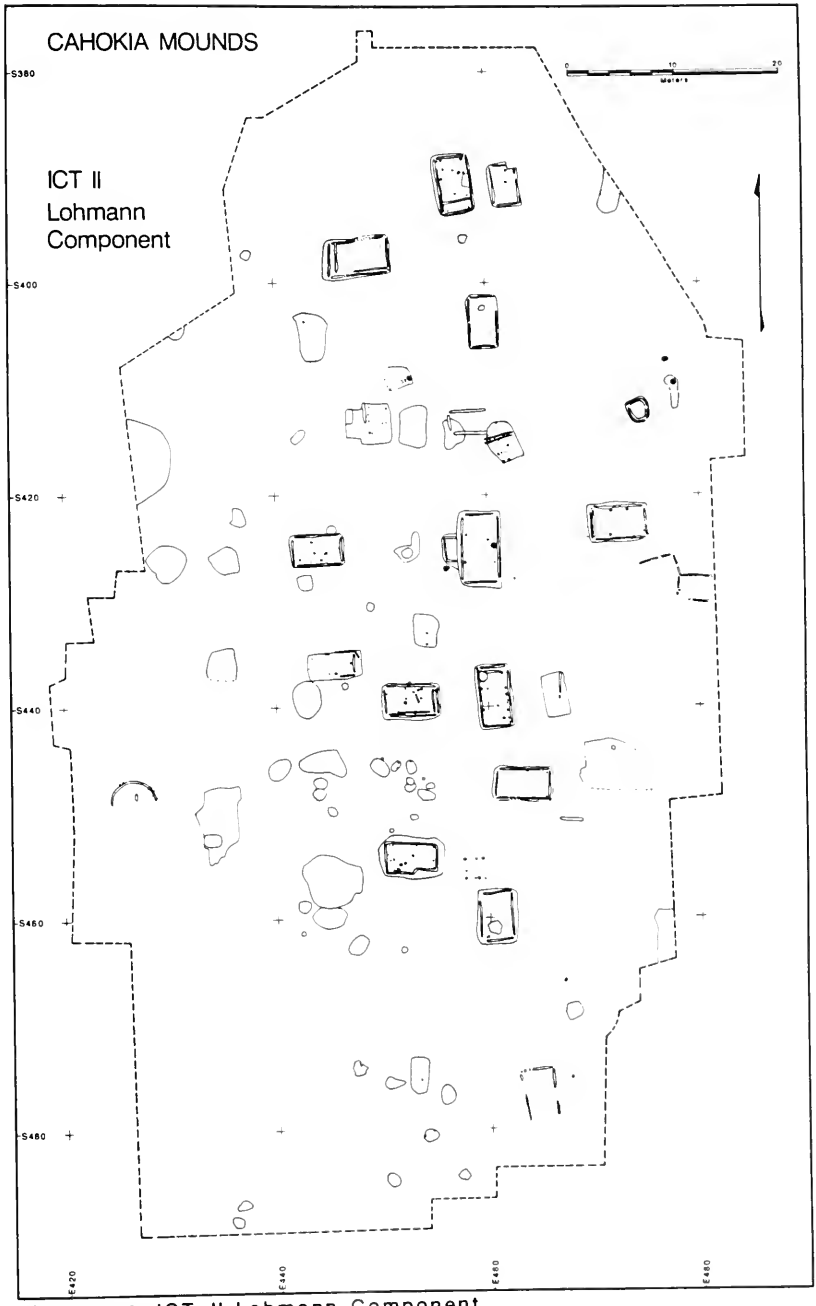


Figure 6.2. ICT-II Lohmann Component.

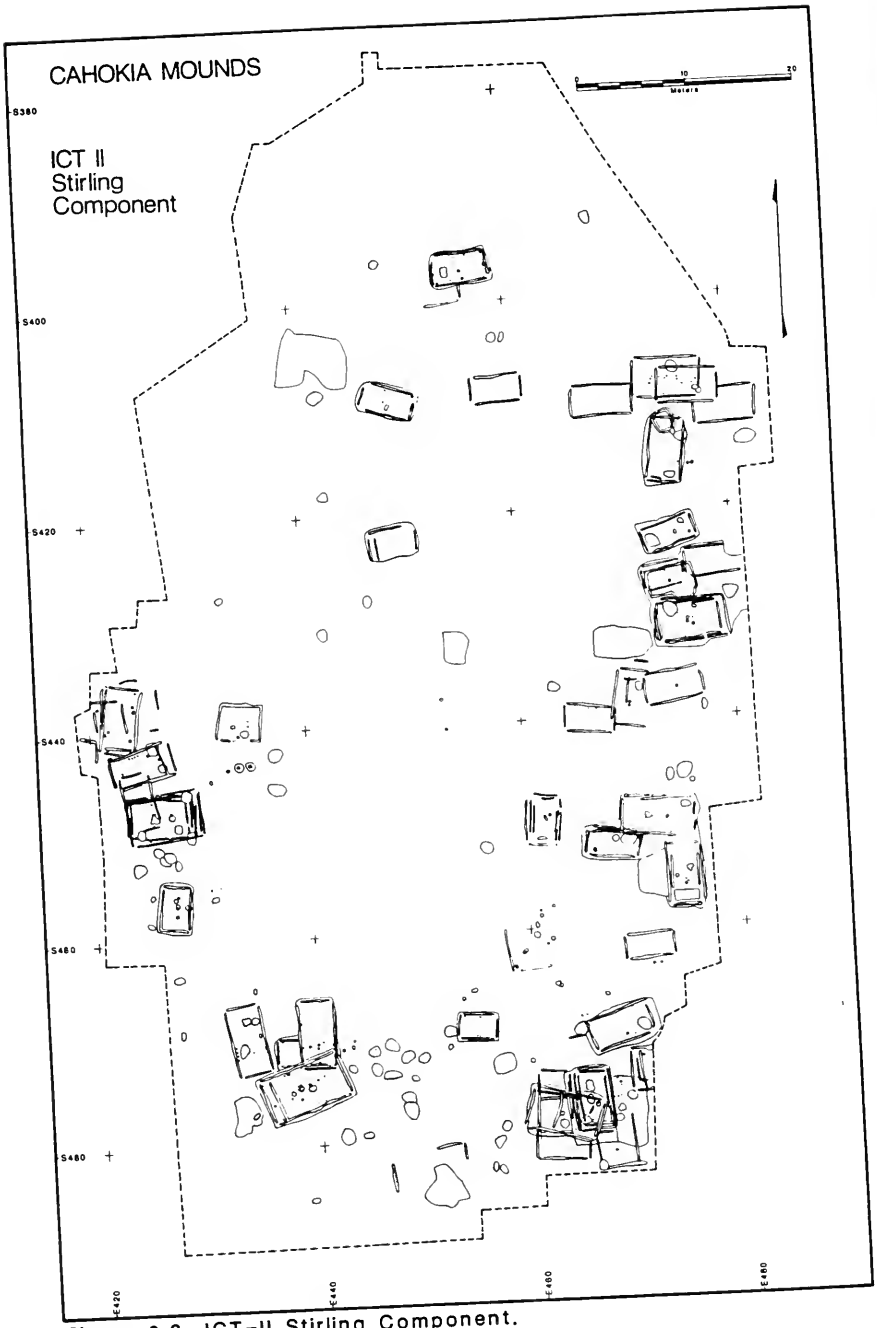


Figure 6.3. ICT-II Stirling Component.

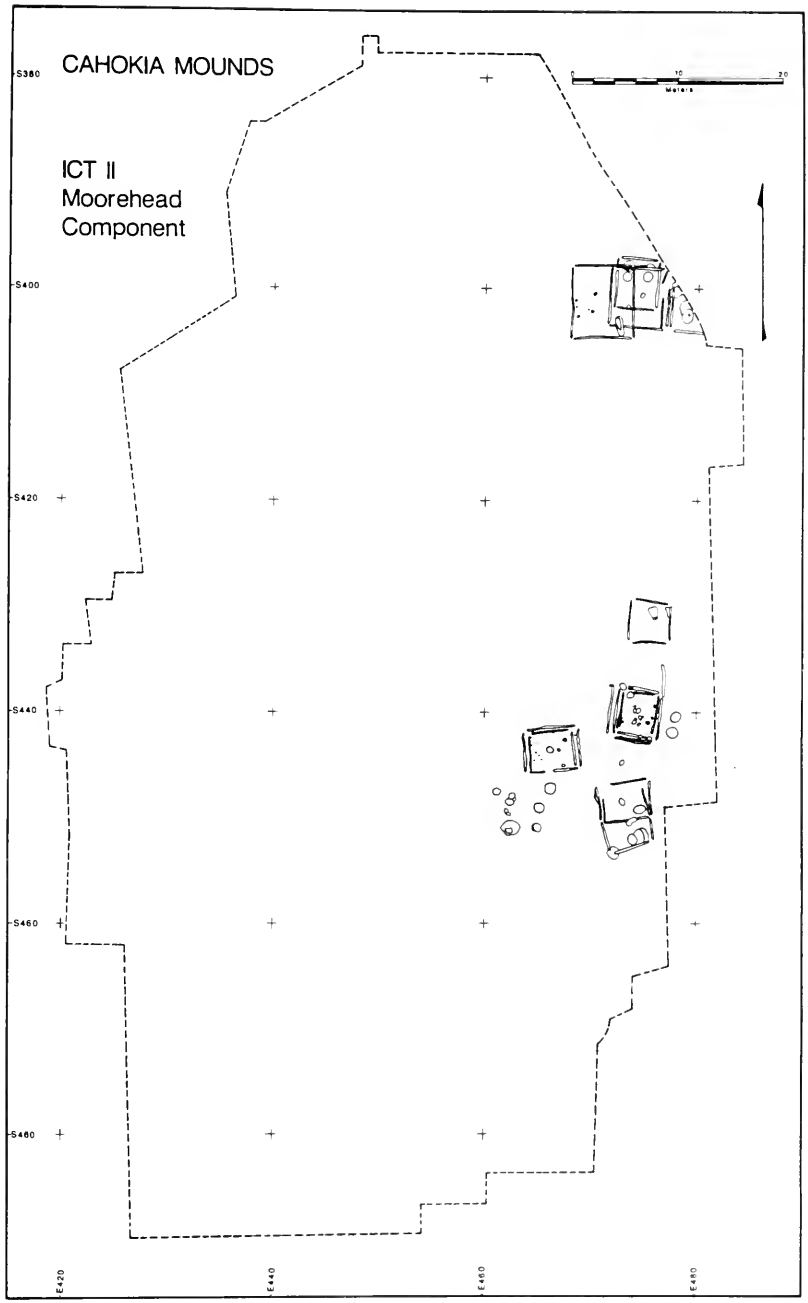


Figure 6.4. ICT-II Moorehead Component.

> At a 95 percent confidence interval, any site that had an average floor area within two standard errors of 28.6 m^2 (from 14.5 m^2 to 42.7 m^2) could be inferred to have had patrilocal residence. In making this inference, the archaeologist would be wrong only 5 percent of the time. Of course it goes without saying that floor area should probably never be used as the sole index of residence.

With Divale's warning fresh in mind, it is cautiously proposed that the ICT–II structural data reflects a pattern of sedentary, monogamous, and patrilocal households.

As mentioned, Whiting and Ayres' (1968) have suggested that societies in which dwellings are larger than 18.6 m^2 are characterized by status distinctions, extended families, or both. At the ICT–II, structure area means for both the Lohmann phase and Early Stirling sub-phase fall well below 18.6 m^2. By contrast, the structure area means for both the Late Stirling and Moorehead components are in the range that Ayres and Whiting have found correlated with status distinctions. This ties in well with the other evidence suggesting communally oriented behavior during the Lohmann phase, which breaks down later into progressively more private behavior patterns.

The picture that emerges from these data is that of an egalitarian social construct at the local residential level during Lohmann times, possibly extending into the Early Stirling sub-phase. This egalitarianism was supplanted during later occupations of the tract when, by all indications, status distinctions became increasingly important at the local level. The most dramatic indication of this transformation was the emergence of a hierarchical settlement plan oriented around a local mound/plaza complex. Other evidence indicative of growing status differences includes the increase in private storage and cooking practices through time, and the cross-cultural data concerning dwelling size.

Status distinctions among the occupants of the ICT–II local community became progressively more pronounced at least through the Late Stirling phase. However, it was during the Lohmann phase that overall status distinctions between Cahokia's elite (see Fowler 1969) and the site's resident population were most pronounced. During the subsequent Stirling phase, status differentiation increased among the populace and may have divided what had been an essentially egalitarian residential population into middle and lower classes. At that time, the polarization between the elite and the middle class may have diminished, possibly at the expense of the lower class. It is possible, assuming a lineage-based development of the middle class, that the status of all individuals comprising a lineage was raised correspondingly. More likely, the middle class got richer and the lower class got poorer.

Whether or not this benefited Cahokia in the long run is probably a matter of perspective. The proposed blurring of status distinctions between the newly formed middle class and the elite was probably necessary to extend the longevity of the Cahokia polity. However, the progressive disenfranchisement of the lower class may have led to the disillusionment of a large segment of the population, who eventually may have simply moved away. It appears that the huge status distinctions characteristic of classic Cahokian society were acceptable so long as the greater populace sharing lower status did so in a more or less egalitarian local sphere. The infiltration of status distinctions into the lower order of Cahokia society may have been one of the first steps leading to the great center's demise.

To those familiar with it, the rich and remarkable archaeological record of the ICT–II suggests seemingly obvious and conclusive behavioral interpretations. However, the interpretations accompanying the descriptive material presented in these pages are not to be considered conclusive. This volume has been concerned with a single artifact population—cultural features. It is hoped that, rather than being "the final word," what has been reported here constitutes a point of departure, a context for subsequent analyses. Final interpretations, if there are such things, must be based on more comprehensive data sets.

Cahokia, as it existed between A.D. 950–1250, was surely among the great early cities of the Americas. The site's urban, or at least quasi-urban status, seems clear when one considers Cahokia in a more general context:

> In taking form, the ancient city brought together many scattered organs of the common life, and within its walls promoted their interaction and fusion. The common functions that the city served were important; but the common purposes that emerged through quickened methods of communication and co-operation were even more

significant. The city mediated between the cosmic order, revealed by the astronomer priests, and the unifying enterprises of kingship. The first took form within the temple and its sacred compound, the second within the bounding city wall. By polarizing hitherto untapped human aspirations and drawing them together in a central political and religious nucleus, the city was able to cope with the immense generative abundance of neolithic culture.

By means of the order so established, large bodies of men were for the first time brought into effective co-operation. Organized in disciplined work groups, deployed by central command, the original urban populations. . . controlled flood, repaired storm damage, stored water, remodelled the landscape, built up a great water network for communication and transportation, and filled the urban reservoirs with human energy available for other collective enterprises. In time, the rulers of the city created an internal fabric of order and justice that gave to the mixed populations of cities, by conscious effort, some of the moral stability and mutual aid of the village. Within this theater of the city new dramas of life were enacted.

But against these improvements we must set the darker contributions of urban civilization; war, slavery, vocational over-specialization, and in many places, the persistent orientation toward death. These institutions and activities, forming a `negative symbiosis,' have accompanied the city through most of its history, and remain today in markedly brutal form, without their original religious sanctions, as the greatest threat to further human development. Both the positive and the negative aspects of the ancient city have been handed on, in some degree, to every later urban structure [Mumford 1961:568-569].

Table 6.1. Mean Metric Data for Sub-class 1.1 Pit Features

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=22)	21	x=1.23 s= .41	.97 .33	.11 .06	.06 .05
Early Stirling (n=9)	8	x= .95 s= .50	.64 .34	.16 .10	.05 .05
Late Stirling (n=3)	5	x= .86 s= .30	.72 .30	.22 .07	.06 .02
All Stirling (n=49)	20	x= .85 s= .42	.65 .31	.13 .07	.03 .03
Moorehead (n=6)	8	x=1.13 s= .48	.74 .30	.19 .09	.08 .06

Table 6.2. Mean Metric Data for Sub-class 1.2 Pit Features

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=2)	2	x=1.47 s= .24	1.04 .20	.15 .02	.09 .01
Early Stirling (n=4)	4	x=1.61 s= .21	1.23 .15	.18 .06	.13 .02
Late Stirling (n=1)	2	.83	.70	.20	.04
All Stirling (n=6)	2	x=1.36 s= .42	1.00 .40	.20 .06	.11 .04
Moorehead (n=2)	3	x= .75 s= .35	.68 .26	.29 .06	.20 .00

Table 6.3. Mean Metric Data for Sub-class 1.3 Pit Features

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=3)	3	x=1.13 s= .43	.90 .35	.18 .12	.04 .02
Early Stirling (n=0)	—	—	—	—	—
Late Stirling (n=0)	—	—	—	—	—
All Stirling (n=3)	1	x=1.00 s= .26	.74 .29	.10 .05	.03 .01
Moorehead (n=0)	—	—	—	—	—

Table 6.4. Mean Metric Data for Sub-class 2.1 Pit Features

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=5)	5	x=2.02 s=1.51	1.43 1.05	.52 .25	1.53 2.30
Early Stirling (n=9)	8	x=1.11 s= .21	.97 .19	.57 .23	.54 .29
Late Stirling (n=5)	8	x=1.34 s= .37	1.18 .27	.46 .13	.52 .20
All Stirling (n=15)	6	x=1.21 s= .28	1.03 .24	.51 .21	.52 .25
Moorehead (n=14)	19	x=1.15 s= .38	.93 .27	.46 .15	.35 .21

Table 6.5. Mean Metric Data for Sub-class 2.2 Pit Features

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=1)	1	1.00	.95	.77	.60
Early Stirling (n=6)	5	x=1.11 s= .26	.92 .26	.52 .10	.35 .04
Late Stirling (n=9)	15	x=1.02 s= .25	.87 .25	.76 .21	.44 .17
All Stirling (n=15)	6	x=1.06 s= .25	.89 .24	.66 .21	.41 .14
Moorehead (n=4)	5	x=1.19 s= .15	1.11 .15	.73 .21	.53 .13

Table 6.6. Mean Metric Data for Sub-class 2.3 Pit Features

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=6)	6	x=.41 s=.13	.33 .15	.25 .07	.03 .02
Early Stirling (n=14)	13	x=.50 s=.20	.42 .17	.26 .10	.04 .04
Late Stirling (n=8)	13	x=.60 s=.19	.47 .20	.34 .13	.08 .07
All Stirling (n=23)	10	x=.52 s=.20	.43 .18	.29 .12	.05 .05
Moorehead (n=12)	17	x=.56 s=.18	.45 .14	.32 .25	.05 .04

Table 6.7. Mean Metric Data for Sub-class 3.1 Hearths

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=1)	1	1.10	.38	.25	.07
Early Stirling (n=4)	4	x= .46 s= .18	.39 .09	.15 .14	.01 .01
Late Stirling (n=5)	8	x= .59 s= .26	.55 .26	.08 .02	.01 .01
All Stirling (n=11)	5	x= .52 s= .20	.47 .19	.12 .08	.01 .01
Moorehead (n=5)	7	x= .58 s= .12	.48 .12	.19 .11	.02 .03

Table 6.8. Mean Metric Data for Sub-class 3.2 Firepits

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=7)	7	x=1.32 s= .89	1.02 .85	.16 .10	.22 .43
Early Stirling (n=0)	—	—	—	—	—
Late Stirling (n=2)	3	x= .82 s= .17	.54 .19	.47 .01	.14 .05
All Stirling (n=2)	<1	x= .82 s= .17	.54 .19	.47 .01	.14 .05
Moorehead (n=4)	5	x= .92 s= .33	.66 .21	.26 .21	.16 .22

Table 6.9. Mean Metric Data for Sub-class 3.3 Firepits with Posts

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=2)	2	x=1.69 s= .41	1.28 .26	.20 .14	.08 .03
Early Stirling (n=0)	—	—	—	—	—
Late Stirling (n=1)	2	2.43	2.11	.18	.35
All Stirling (n=1)	<1	2.43	2.11	.18	.35
Moorehead (n=0)	—	—	—	—	—

Table 6.10. Mean Metric Data for Sub-class 3.4 Smudge Pits

Volume	Percent of Component	Length	Width	Depth	
Lohmann (n=1)	<1	.26	.26	.19	.01
Early Stirling (n=0)	—	—	—	—	—
Late Stirling (n=0)	—	—	—	—	—
All Stirling (n=7)	3	x= .22 s= .09	.18 .08	.18 .11	.004 .003
Moorehead (n=0)	—	—	—	—	—

Table 6.11. Mean Metric Data for Sub-class 3.5 Deep Earth Ovens and Roasting/Steaming Facilities

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=4)	4	x=3.58 s= .71	2.00 .57	.38 .28	2.19 .89
Early Stirling (n=2)	2	x=4.26 s=1.78	2.25 1.20	.46 .47	2.70 .93
Late Stirling (n=0)	—	—	—	—	—
All Stirling (n=2)	1	x=4.26 s=1.78	2.25 1.20	.46 .47	2.70 .93
Moorehead (n=0)	—	—	—	—	—

Table 6.12. Mean Metric Data for Sub-class 4.1 Free-standing Post Features

Volume	Percent of Component	Length	Width	Depth	
Lohmann (n=6)	6	x=1.09 s=1.43	.52 .38	.98 1.08	1.08 1.66
Early Stirling (n=4)	4	x= .18 s= .05	.17 .04	.21 .13	.01 .02
Late Stirling (n=4)	6.5	x= .31 s= .06	.27 .02	.25 .04	.01 .00
All Stirling (n=13)	5	x= .33 s= .26	.30 .24	.21 .08	.01 .01
Moorehead (n=1)	1	x= .30	.28	.12	.004

Table 6.13. Mean Metric Data for Sub-class 4.2 Structural Post Features

	% of Component	Length	Width	Depth	Volume
Lohmann (n=2)	2	x=.44 s=.14	.37 .24	.41 .15	.07 .08
Early Stirling (n=4)	4	x=.39 s=.05	.25 .06	.29 .14	.02 .01
Late Stirling (n=1)	2	.52	.49	.29	.03
All Stirling (n=6)	2.5	x=.42 s=.07	.31 .11	.35 .19	.03 .02
Moorehead (n=6)	8	x=.30 s=.05	.23 .06	.25 .14	.01 .01

Table 6.14. Mean Metric Data for Sub-class 5.1 Rectangular Wall Trench Structures

	% of Component	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
Lohmann (n=10)	10	x=4.90 s= .38	2.73 .16	.40 .14	1.79 .15	13.37 1.47	5.22 1.65	.15 .02	.09 .01
Early Stirling (n=18)	17	x=5.42 s= .53	2.92 .31	.24 .04	1.85 .19	15.88 2.79	3.59 1.01	.13 .02	.09 .02
Late Stirling (n=12)	20	x=6.35 s= .59	3.54 .56	.20 .07	1.79 .19	22.74 5.45	4.37 2.00	.16 .04	.10 .04
All Stirling (n=33)	14	x=5.72 s= .75	3.23 .54	.22 .06	1.77 .24	18.72 5.17	3.96 1.56	.14 .03	.10 .03
Moorehead (n=0)	---	---	---	---	---	---	---	---	---

Table 6.15. Mean Metric Data for Sub-class 5.2 Small Rectangular Wall Trench Structures

	Percent of Component	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
Lohmann (n=2)	2	x=4.05 s= .63	2.32 .10	.24 .16	1.74 .19	9.45 1.90	2.47 2.00	.11 .02	.10 .00
Early Stirling (n=9)	8	x=4.13 s= .46	2.34 .10	.23 .07	1.76 .23	9.64 1.06	2.22 .60	.13 .02	.10 .03
Late Stirling (n=0)	—	—	—	—	—	—	—	—	—
All Stirling (n=9)	4	x=4.13 s= .46	2.34 .10	.23 .07	1.76 .23	9.64 1.06	2.22 .60	.13 .02	.10 .03
Moorehead (n=0)	—	—	—	—	—	—	—	—	—

Table 6.16. Mean Metric Data for Sub-class 5.3 Square or Nearly Square Wall Trench Structures

	Percent of Component	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
Lohmann (n=0)	—	—	—	—	—	—	—	—	—
Early Stirling (n=2)	2	x=4.65 s=1.34	4.00 1.13	—	1.15 .01	19.36 10.36	—	.15 .02	.12 .02
Late Stirling (n=0)	—	—	—	—	—	—	—	—	—
All Stirling (n=2)	<1	x=4.65 s=1.34	4.00 1.13	—	1.15 .01	19.36 10.36	—	.15 .02	.12 .02
Moorehead (n=8)	11	x=4.96 s= .82	4.17 .84	.19 .01	1.19 .09	21.23 8.00	3.47 .85	.16 .01	—

Table 6.17. Mean Metric Data for Sub-class 5.4 Unusual Shaped Wall Trench Structures

	Percent of Component	Length	Width	Depth	L/W Ratio	Area	Volume	Ave. Trench Width	Ave. Post Diam.
Lohmann (n=2)	2	x=4.38	2.48	.37	1.81	18.09	6.98	.13	.09
		s=2.01	.89	.07	.15	7.90	4.19	.01	.01
Early Stirling (n=2)	2	x=3.62	1.87	.21	1.90	14.51	2.84	.13	.10
		s=1.94	.73	.08	.00	7.25	.44	.02	.00
Late Stirling (n=0)	—	—	—	—	—	—	—	—	—
All Stirling (n=2)	1	x=3.62	1.87	.21	1.90	14.51	2.84	.12	.10
		s=1.94	.73	.08	.00	7.25	.44	.02	.00
Moorehead (n=1)	1	3.80	3.70	.26	1.02	14.06	3.66	.12	—

Table 6.18. Mean Metric Data for Sub-class 6.1 Arbors, Kitchens, Ramadas, and Sweat Lodges

	Percent of Component	Length	Width	Depth
Lohmann (n=4)	4	x=3.84	2.48	.27
		s=1.41	1.42	.14
Early Stirling(n=2)	2	x=5.26	3.42	.21
		s=1.50	.03	.15
Late Stirling (n=2)	3	x=4.90	3.03	.23
		s= .71	.59	.06
All Stirling (n=5)	2	x=5.10	3.24	.22
		s= .85	.36	.10
Moorehead (n=1)	1	4.50	3.35	.23

Table 6.19. Mean Metric Data for Sub-class 6.2 Granaries

	Percent of Component	Length	Width	Depth
Lohmann (n=4)	4	x=2.47 s= .73	1.94 .31	.33 .23
Early Stirling (n=0)	—	—	—	—
Late Stirling (n=0)	—	—	—	—
All Stirling (n=1)	2	2.00	1.40	—
Moorehead (n=0)	—	—	—	—

Table 6.20. Mean Metric Data for Sub-class 7.4 Midden-filled Borrows

	Percent of Component	Length	Width	Depth	Volume
Lohmann (n=11)	11	x=4.16 s=1.53	2.86 .94	.21 .12	1.77 1.79
Early Stirling (n=0)	—	—	—	—	—
Late Stirling (n=2)	3	x=4.51 s=3.27	2.34 1.30	.19 .02	2.15 2.74
All Stirling (n=5)	2	x=4.22 s=2.22	2.70 1.51	.19 .06	1.74 1.77
Moorehead (n=0)	—	—	—	—	—

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